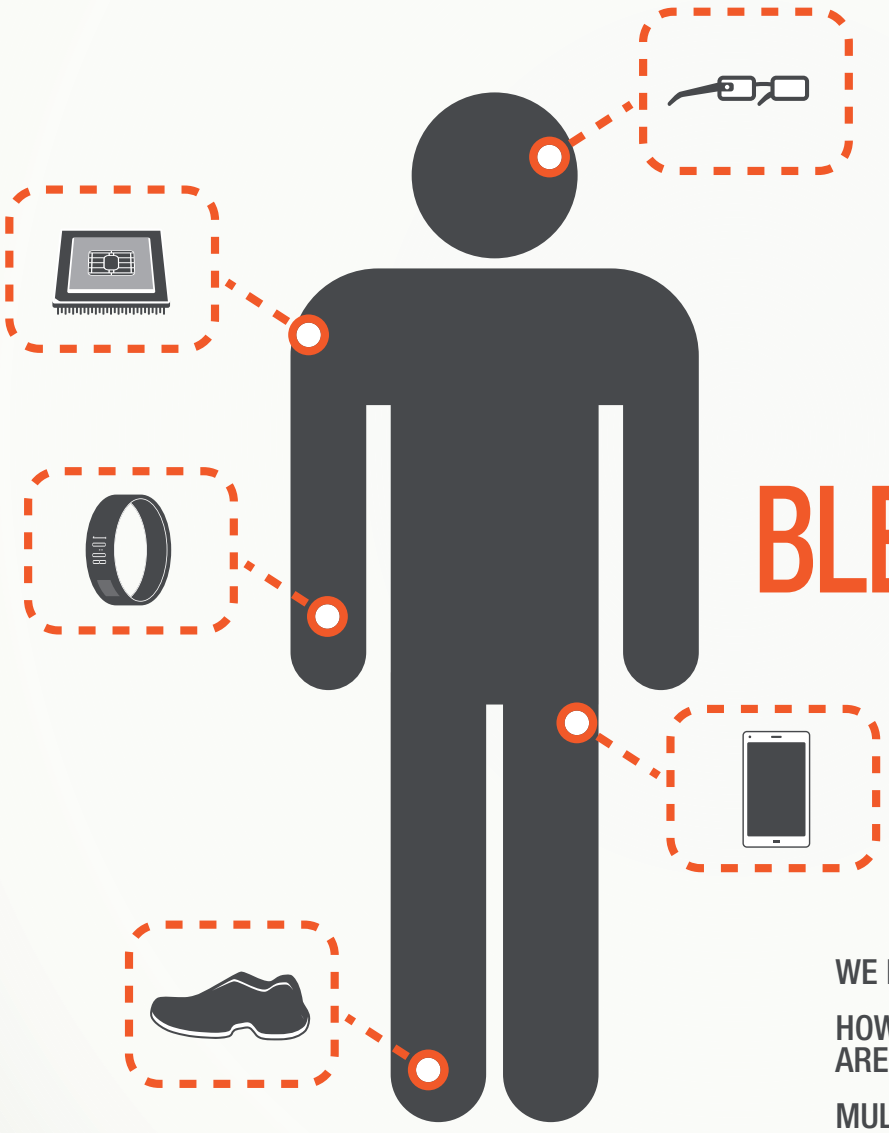
APRIL 2014

intercom

THE MAGAZINE OF THE SOCIETY FOR TECHNICAL COMMUNICATION



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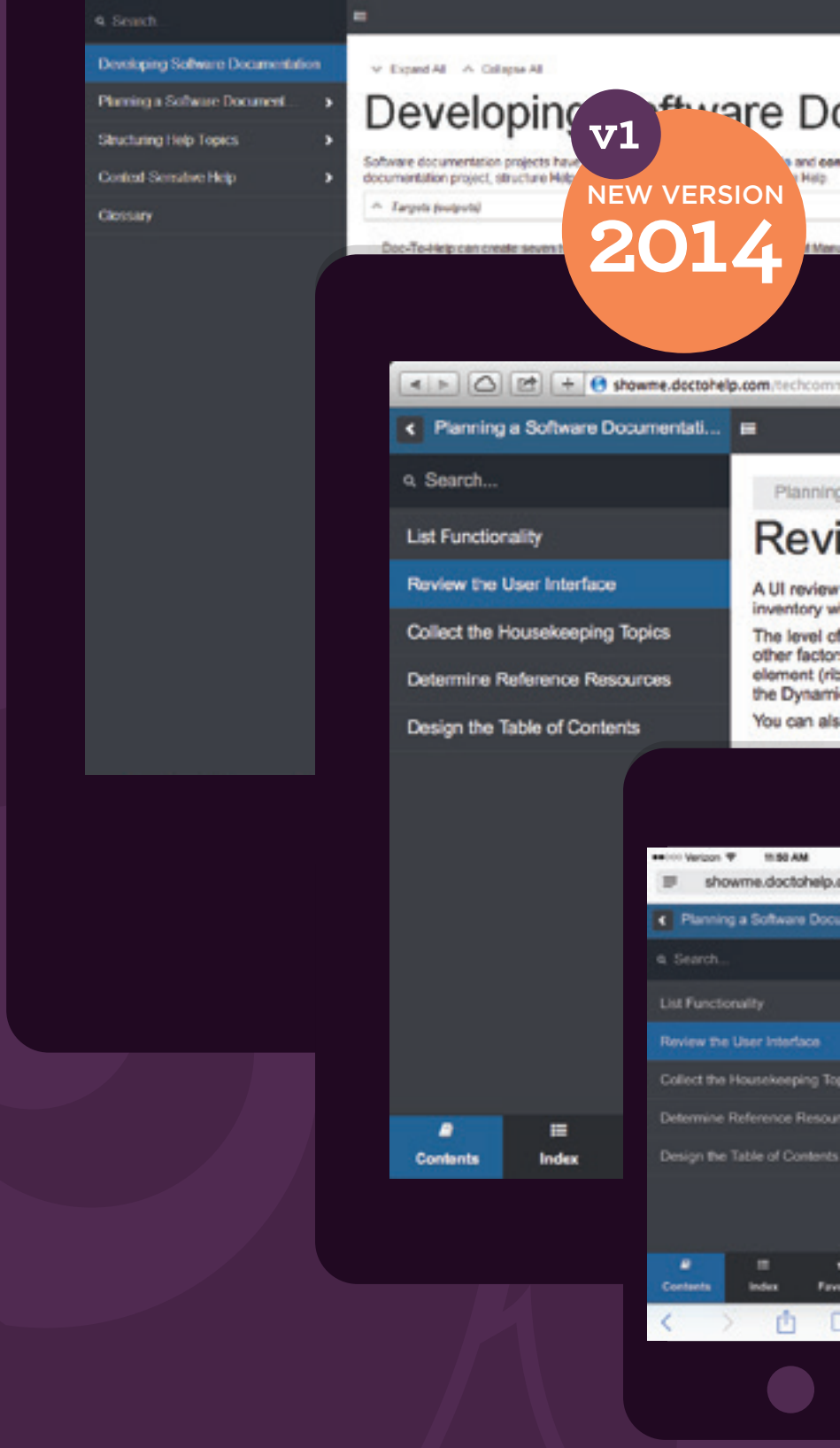

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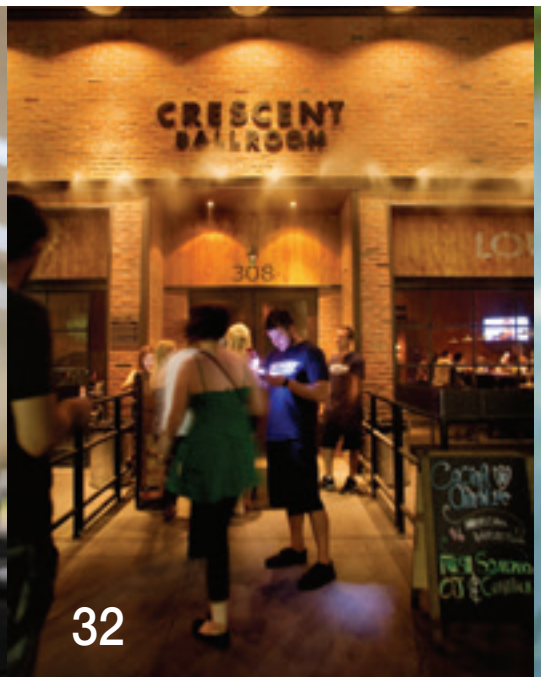

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intercom

Intercom, the magazine of the Society for Technical Communication, is published to provide practical examples and applications of technical communication that will promote its readers' professional development.

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Intercom Editorial: intercom@stc.org

Reprint Permissions: www.copyright.com
Intercom (ISSN 0164-6206) is published 10 times a year (monthly, except for August and December) by the Society for Technical Communication, 9401 Lee Highway, Suite 300, Fairfax, VA 22031-1803, a nonprofit educational organization, as a service to its membership. Membership in STC includes a subscription to **Intercom**. Periodicals postage paid at Fairfax, VA, and additional offices.
Postmaster Send address changes to **Intercom**, Attn: Membership, c/o Society for Technical Communication, 9401 Lee Highway, Suite 300, Fairfax, VA 22031-1803.

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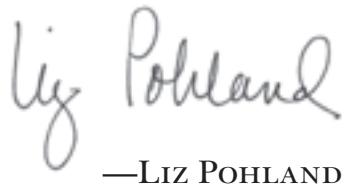
A Note from the Editor

THANK YOU Neil Perlin for putting together an exciting issue of *Intercom* this month. Neil is president of Hyper/Word Services (*www.hyperword.com*) of Tewksbury, MA. He has 35 years of experience in technical writing, with 29 in training, consulting, and developing for online formats and tools including WinHelp, HTML Help, JavaHelp, CE Help, XML, RoboHelp, Flare, and others now long gone. Neil is Adobe-certified for RoboHelp, MadCap-certified in Flare and Mimic, and ViziApps-certified for the ViziApps Studio app development platform. He is an STC Fellow and the founder and manager of the Beyond the Bleeding Edge stem at the STC Summit.

April 2014 *Intercom* focuses on The Bleeding Edge—a title formed as an allusion to the similar terms *leading edge* and *cutting edge*. Bleeding edge tends to imply advancement at a risk of metaphorically cutting until bleeding because of the newness of the software or other technology. A technology may also be considered bleeding edge where it contains a degree of risk, or, more generally, where there is a potential downside to early adoption, such as a lack of consensus on whether the technology is here to stay, whether it has been properly tested, or whether industry is resistant to adoption of said technology. Take Google Glass as one example from this issue—it has been heavily criticized in the press, but many users and businesses are embracing it nevertheless.

All of the articles in the issue emphasize the ways in which technical communication work has changed as a result of the bleeding edge, whether via new tools or emerging communications methods or the advancement of the Web. Regardless of the reasons, it is clear in reading these articles that technical communication work is as important as ever. Whatever their industry, technical communicators will find much opportunity here: via the mobile Web, multi-screen content authoring, wearable technology like Google Glass, adaptive and responsive design, eBooks, analytics, and gamification.

I plan to continue to publish articles on bleeding edge topics in future issues of *Intercom*. If you see a bleeding edge topic we're missing and want us to focus on it, please let me know!



—Liz Pohland
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A Note from the Guest Editor

The Bleeding Edge of Technical Communication

IN 1998, I began a session at the STC Summit called "Beyond the Bleeding Edge." The session provides a venue for topics that missed the proposal submission deadline or were not mainstream topics in technical communication but still relevant. Since then, Bleeding Edge presentations have introduced topics like JavaHelp, XHTML, print-on-demand, and haptic interfaces. One attendee described the session as an "early warning system for tech comm." The Bleeding Edge session continues at the 2014 Summit in Phoenix.

The Bleeding Edge extends new themes with this issue of *Intercom*. Seven authors have written on tech comm's philosophy and emerging technologies. The topics and their authors are:

1. "We explain things"—a tech comm philosophy for a nervous era, by Rick Lippincott
2. HTML5, CSS3, and Javascript—the technical foundation of new online content, by Alan Houser
3. Mobile—the PC's replacement, by Joe Welinske
4. Analytics—to learn whether users use what we create, by Massimo Paolini
5. eBooks—the printed book's replacement, by Scott Prentice
6. Google Glass and alternative interfaces—science fiction couture hits tech comm, by Marta Rauch
7. Gamification—adding play elements as motivators, by Tom Johnson

This issue of *Intercom* doesn't have room to cover all the bleeding edge technologies. For example, responsive design has been with us for several years but only appeared in our authoring tools in early 2014. Responsive design recognizes that our output has to display on different devices and look good on all of them—be "device agnostic," or from *Implementing Responsive Design* by Tim Kadlec (2013), "use media queries, fluid grids, and scalable images to create sites that display … at multiple resolutions."

Responsive design probably includes mobile but doesn't have to. Mobile is exploding to the point where sales of mobile devices have overtaken PCs (see *www.huffington post.com/2011/02/08/smartphones -outsell-pcs-f_n_820454.html*). Just as tech comm inexorably went online with the advent of the PC, so too is it likely to go mobile.

The cloud has been penetrating tech comm for years with tools like Google Docs and is slowly but surely changing how we distribute our outputs and literally how we work. Topic-based authoring and structured authoring aren't on the bleeding edge, but they're crucial parts of tech comm's future.

Why focus on the Bleeding Edge now? Technical trends often exist in channels, like a meandering river. But occasionally, those channels merge to form a torrent that changes the landscape. That happened first in the early 1980s when word processing software and PCs turned the typewriter into an antique. It happened in the late 1990s when the Web, browsers, and Microsoft's shift of online help from RTF to HTML created today's browser-based tech comm landscape. It's happening again today with these bleeding edge technologies. We may never use some of them, or not use them for years, but knowing about them lets us forecast how they may affect our companies, which may get us involved at the strategic level. And knowing about them will help us guide our own careers. Consider some possibilities:

- Using HTML5, CSS3, and responsive design to create content that can be read on any device from a PC to mobile devices to wearables.
- Collaborative work with SMEs and other writers through the cloud.
- Acceleration of the release cycle as more and more projects move into the cloud.
- Using HTML5's improved searchability to create content that can compete with Google.
- And, at the foundation, topic-based and structured authoring coupled with good coding and consistent content to support rapid and flexible output of our material.

The result of all this? Significant and fun new opportunities and a way for tech comm to get off the sidelines and have a strategic role in our companies.

—Neil Perlin
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We Explain Things

By RICK LIPPINCOTT | *Associate Fellow*

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OVER THE PAST 15 YEARS, our profession has undergone a sea change, and not for the better. We have gone from boom to bust, and many of us have heard colleagues say that the profession is dying. Some of us may have felt that way ourselves from time to time. It seems as though new products are fewer, staffing is smaller, and we're not seeing the same pace of radical change as we did in the late 1990s or earlier in the 21st century. Compared to what we have experienced in the recent past, it may feel as though the need for technical communication is going away.

Those feelings are wrong. This cycle isn't anything new, and our profession isn't about to disappear. To quote J. M. Barrie (and later Ronald Moore): "All of this has happened before, and it will happen again."

A large part of the problem has been economic. Our jobs depend on innovation and development, those happen more quickly and more often when there's strong financial backing to support them. For the past several years, the financial backing has been lean. (When is the last time we've heard the words "venture capitalist" in conversation?)

The problem with economic cycles is exactly what the name implies: they cycle. For every upswing and peak, there's a corresponding downswing and valley. In a famous sequence from the film *Being There*, Chance the gardener compares economic cycles to the seasons. He explained that every spring of growth and summer of abundance is followed by an autumn of decline and a winter of scarcity. However, spring always comes once again (*www.imdb.com/title/tt0078841/quotes*).

We do not fear an actual winter because we know spring will return, but we fear the slow times in the economy only because we're unsure of when it will end.

We lived through the boom cycle of innovation that began in the 1990s, but we tend to forget this was only one in a series of booms that have had a positive impact on employment in our profession. Contrary to popular myth, tech comm didn't start with the information age or early computing systems (no disrespect to Joseph Chapline's 1949 work [*www.writingassist.com/newsroom/first-technical-writer-joseph-chapline*] intended). In reality, technical communicators have been around for a very long time.

More than a decade before the dot-com boom, there was an upswing in jobs. It was driven not only by technological advances, but also spurred in the United States by a period of rapid growth in defense and aerospace systems. At the same time, rising worldwide financial markets produced increased funding for product innovation (*www.progressivefix.com/wp-content/uploads/2010/07/2010-July_Mandel.pdf*).

Two decades before this, the 1960s saw an employment surge spurred by waves of electronics, defense, and space exploration as well as increased consumer goods. Everything from radar systems to toasters came with a set of instructions in those days, and each set of instructions was a job for a technical communicator.

A generation earlier there had been a wave of increased technical communication brought on by World War II. Aircraft, ships, and armored vehicles all needed operation and maintenance manuals. At the same time, there was also a demand for written processes and procedures for running the war effort. So much technical documentation was produced in this era that there remains a market among hobbyists for reprints of system operating manuals from that era (*http://aviationshoppe.com/aircraft-manuals-documents-t-12.html*).

Even earlier in the Roaring Twenties, a booming economy produced new products, systems, and devices. There were even technical writing opportunities available from companies such as Sears and Roebuck, at the time in the business of selling homes in kit form for assembly by the purchaser (*www.searsarchives.com/homes*).

A generation of writers before them had documented the products of a changing industrial base, as well as changing systems in transportation and communication. Further back, writers had been documenting the machines of the industrial revolution. Steam engines, ship operations, shoe manufacturing equipment, railroads, and other products kept technical communicators employed.

It goes back even farther.

In the late 14th century, Geoffrey Chaucer wrote what is commonly called the first English language technical manual (*www.joh.cam.ac.uk/library/library_exhibitions/school resources/astrolabe/chaucer*), although it may only be the oldest English manual that we've discovered. Chaucer's manual explained the workings of an astrolabe.

An example of technical communication from the 12th century was recently featured on the cover of the British ISTC journal *Communicator* (*www.istc.org.uk*). The document was an illustrated set of instructions for sword fighting, a "manual of arms."

We can continue to trace this path back literally to the dawn of civilization. In January 2014, the British Museum put on display a four-thousand-year-old clay tablet from ancient Mesopotamia. The cuneiform script, when deciphered, contained detailed instructions for building a type of boat known as a coracle (*http://abcnews.go.com/Entertainment/wireStory/british-museum-prototype-noahs-ark-round-21654386*).

Technical communication may not be the oldest profession, but it has been around in one form or another for a very long time. There is a reason why: human beings are inventors, and new systems or new items always require explanation for new users.

That's where we come in: We explain things, and it is always the new that requires the greatest explanation.

True, the past few years have not been easy. As the economy has slowly recovered, it's been obvious that (like many other professions) technical communication job numbers are fewer than they were before. We had gone through a perfect storm that included not just the dot-com bust and the post–9/11 recession (which spread worldwide), but also three more factors:

1. Desktop publishing systems reached an advanced state, which made our jobs easier. But the downside is that

"easier" also means "each person can do much more," which in turn means "fewer people needed."
2. The wave of innovation in the 1990s slowed down as once-groundbreaking systems became standardized.
3. Techniques that had been new and strange in the beginning became commonplace and required less (or no) explanation.

The computer mouse is an example of the new becoming common. In the early to mid-1990s, most technical documentation would include an explanation of how to use a mouse. By the early 2000s, we were debating the need to include the chapter. Today, the debate is settled, and the mouse chapter lost. Similar examples are methods to navigate menus, export data, or print information. Most of our audience already knows how to do these things, because the operations are standardized and ubiquitous.

Some of the jobs that we held during the dot-com boom may be gone, but it is only because those jobs are completed. We normally don't document older technology; we deal with the new.

It's possible that at every stage in history where there has been a plateau in development, those who produced the instructions and explanations likely thought it was the end of an era because they could not foresee the next wave. When jobs folded in the early 1970s, the writers of the time could not have imagined that the foundation of the next big new wave had already been set with two late-1960s events: the famous "Mother of all Demos" at the Fall Joint Computer Conference in December 1968 (*www.dougengelbart.org/firsts/dougs-1968-demo.html*), and the creation of ARPANET, first deployed at the end of October 1969 (*www.edn.com/electronics-blogs/edn-moments/4399541/ARPANET-establishes-1st-computer-to-computer-link--October-29--1969*). Few in their wildest dreams could have envisioned where this would lead.

There have always been people tasked to provide information and procedures on things that were both complex and new for their era. There always will be. The method of information delivery has changed with the years. It probably will change again in our lifetime.

That brings us to ask the obvious: What are the new things that we might expect to provide new job opportunities?

- **Mobile—**We are witnessing another sea change in the delivery of information. A smaller screen with limited controls demands entirely new methods of communication. Documentation for individual mobile apps may be smaller, but the volume of applications will be higher. Smaller devices with smaller interfaces require more precision in their explanations. We are the right people to provide those explanations.
- **Video—**Some technical communicators worry that company-issued documentation may be superseded by consumer-based video instruction on the Web. We're looking at this exactly backward: the appearance of "home video" solutions indicates that there is a demand for clear visual instruction. We are the people who should be creating it. Business for the moment may feel that they can take advantage of the current free labor; the downsides for them include liability risks and possible endangerment of trademark. The rule of thumb for a good video production (including scripting, setup, recording, and editing) is about one hour of production time for each minute of final video. That adds up to a lot of work.
- **Commercial Space—**If expectations hold, activities by companies such as SpaceX and Orbital Sciences may present wide new avenues for us. There are three avenues of job creation: documentation of spacecraft operation and maintenance, documentation of payloads, and new product development that results from manufacturing and processing in microgravity and hard vacuum. This third area is the one that holds the greatest potential for our jobs.
- **Virtual Reality—**Google Glass may well have the potential to revolutionize our methods of information delivery. A hint of the future can be gleaned from the iPhone-based "virtual" owner's manual for the Audi A1 and A3 automobiles. The potential for Google Glass and similar technologies is an active, animated process that walks the user through a complete procedure, projecting visual highlights exactly over the items that require the next action, and perhaps even noticing (and advising on) errors before the user can spot them. These processes would be at as far beyond what the approaches we're using now as Web-based delivery was beyond printed paper manuals.

One problem of being a technical communicator is that we're on the bleeding edge of technology change and technology development, and from there often it is difficult to imagine what will come next. Professionals in other fields may be able to project what they will be doing five years down the road based on trends in business, or the plans being made today for items that will be manufactured in the future. We, on the other hand, cannot be certain what we will be writing about in five years, because it hasn't been invented yet.

The need for technical documentation (no matter what the form) will continue. With literally four thousand years of technical communication history behind us, there's a certainty that years, decades, and even centuries into the future we will still be around because of one simple reason: We explain things. People have always needed explanations, and they always will.

RICK LIPPINCOTT *(@rjl6955) is an STC Associate Fellow and technical writer at AS&E, documenting high-energy X-ray systems. He was president of the STC Boston Chapter and later STC New England, where he is now social media manager. Past documentation jobs included transport aircraft, jet engines, ion implanters, and other systems he calls "heavy metal." For fun, Rick builds aircraft scale models and practices martial arts (but not at the same time). Rick is the author of the Squadron/Signal publication C-5 Galaxy in Action.*

How HTML5, CSS3, and Javascript Are Changing the Web

By ALAN HOUSER | *Fellow*

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IT HAS BEEN TWO YEARS since I wrote my last feature article on HTML5 ("The Story Behind HTML5," *Intercom*, March 2011). HTML5 was the product of a group of browser vendors who chose to develop a standard based on evolving customer requirements, the changing nature of the Web, and the changing ways we interact with and use the World Wide Web.

Two years later, HTML5 is a resounding success, with ever-increasing adoption, continually improving browser and device support, and a growing community of users and adopters. HTML5 and its companion technologies, CSS3 and Javascript, have emerged as the global standard technologies for Web development.

HTML5 has become pervasive in our Web experience. Nearly every user of the world wide Web interacts with HTML5 in some way, whether as an author or consumer of content. Many of our smartphone and tablet applications are actually HTML5 websites. This increase in the popularity of HTML5 provides growing opportunities for the infrastructure of professionals, including technical communicators, who support HTML5-based Web development.

The Web Today

We interact with the Web differently than we did even a few years ago. Seven years ago, the iPhone did not exist. Five years ago, the iPad did not exist. Now tablets and Internet-capable smartphones have become ubiquitous. In 2013, PC sales fell, while sales of these new devices rose. The ways we connect with the Internet are changing, and the way we interact with online products, services, and content is clearly changing.

We are also having richer Web experiences than in the past. Web "content" includes text, audio, video, graphics, and animations. We expect interactivity on the Web. Many websites have become Web applications; providing the same interactive experience and information, often using the capabilities built into our mobile devices, like location information.

The Building Blocks of the Modern Web

While HTML5 is the new standard markup language for the Web, for providing rich Web experiences HTML5 alone is not sufficient. When many Web developers speak of HTML5, they are really speaking of HTML5, CSS3, and Javascript. Together, this trio of technologies provides markup, styling, and interactivity that we expect from today's World Wide Web.

HTML5

HTML5 is the current incarnation of HTML, the markup language of the World Wide Web. The previous widely-used incarnation of HTML, version 4.01, had been finalized in 1999. That's a long time ago, especially in Internet time.

The developers of HTML5 had several goals, including:

- Provide former plug-in functionality, like audio and video support, natively in the browser.
- Provide semantic markup.
- Retain backward compatibility and support existing best practices.
- Provide features needed for Web-based applications, like local data storage and extended capabilites for executing scripts.

CSS3

Very soon after the inception of the World Wide Web, the Web community saw the need to separate content from formatting. The World Wide Web Consortium (W3C) developed Cascading Style Sheets (CSS) to address this issue. CSS allows Web developers to define and adjust formatting separately from HTML markup.

CSS was first finalized in late 1996. The W3C finalized CSS2 in 1998. CSS2.1 became a W3C recommendation in June 2011. CSS 2.1 includes several features considered to be part of CSS3, including the ability to tailor the formatting of content to particular devices or screen sizes.

CSS3 is actually not a single, formal specification. After the W3C finalized the CSS 2.1 specification, the W3C split the CSS family of specifications into individual modules. These modules are commonly referred to as CSS3.

CSS3 capabilities include:

- **Media queries**—The ability to detect characteristics of the browser (most notably, browser window size) and adjust styling appropriately.
- **Selectors**—Richer capabilities for selecting individual HTML elements (for example, the first or last item in a list) and applying appropriate styling.
- **Styling**—Improved capabilities for styling corners, borders, shadows, and gradients; invaluable for creating the user interfaces for Web-based applications.
- **Transitions and animations**—Ability to create visual effects that often accompany interactivity, such as pressing a button, and to animate objects in the browser window. Also invaluable for Web-based applications.

Before CSS3, to make a round corner on a button or a text area, Web developers had to use an image of a round corner. To make a gradient, Web developers needed a series of colored images. Now they can do so with CSS3. The button styles commonly seen on smartphones—rounded corners, gradients, shadows—can all be declared with CSS3.

The W3C lists 70 (!) individual CSS specifications at *www.w3.org/Style/CSS/specs*. You could learn CSS by reading the W3C specifications, but I would not recommend it. Most are written for the audience of browser implementers, not Web developers.

Javascript

If HTML is for content, and CSS is for styling and formatting, then Javascript is the programming language of the World Wide Web. Javascript is understood by all major Web browsers and is formalized as a specification by an internationl organization, ECMA International. Javascript provides full programatic control of the contents of the browser window—including user interface

elements, content at the element level, and other browser behaviors. The content of a Web page is represented by a data structure called the Document Object Model (DOM), and can be manipulated by Javascript, often to present customized content or interactive Web applications.

Designing for a Multi-Device World

How do Web developers accommodate the proliferation of new devices? While a desktop browser provides a rich canvas for large images, big headlines, and multi-column text, Web developers must also support small-screen devices. Several approaches have arisen.

Separate, Optimized Sites

Create multiple sites, each optimized for a range or category of screen sizes (e.g., desktop, tablet, smartphone). Often organizations make assumptions about mobile device users that aren't true. And multiple sites increase the effort required for maintenance. Inevitably, the mobile and tablet sites tend to lag behind the desktop site.

Adaptive Design

This is a variation of separate, optimized sites. The Web server serves appropriate pages, depending on the client's screen size. Sometimes this approach results in the maintenance issues that affect organizations that try to maintain multiple sites.

Responsive Design

This approach is increasing in popularity. The Web server serves one set of HTML, CSS, and Javascript. Using the CSS3 capability of media queries, the client browser applies the appropriate style sheet properties for the client's device. Images may be dynamically resized or replaced to fit the browser screen.

This approach requires careful up-front design, to provide content and layout appropriate for a range of devices, but provides the benefit of ease of maintenance.

Support for HTML5

Support for HTML5 is improving with each update of the major browsers. The website *http://html5test.com* provides an HTML5 support matrix that includes five major desktop browsers, seven table and mobile browsers, plus browsers built into gaming consoles, televisions, and e-ink–based book readers.

But older browsers will be with us for some time. How can you design with HTML5 but provide a similar rich experience for users on older browers?

Fortunately, HTML5 was designed with backward compatibility in mind. For providing or emulating HTML5 features in older browsers, there are several popular polyfills—functions (typically Javascript) or CSS stylesheet declarations that provide fall-back behavior when a browser encounters an unsupported feature or unsupported HTML5 element. For example, even though <section> is a new HTML5 element, older browsers will respect CSS stylesheet declarations for unknown elements and render them as intended.

The design technique of graceful degradation has always been important in Web development. Designers should consider the breadth of browsers and hardware platforms, and attempt to provide a pleasing, but not identical, experience to all users. The W3C summarizes the practice of graceful degradation as follows: "One Web means making, as far as is reasonable, the same information and services available to users irrespective of the device they are using. However, it does not mean that exactly the same information is available in exactly the same representation across all devices" (*www.w3.org/TR/mobile-bp/#OneWeb*).

What Does This Mean for Technical Communicators?

HTML5 was developed to support evolving business and consumer requirements in an age of ever-evolving hardward and device capabilities. Professional opportunities abound, for development based on this new Web infrastructure:

- For designers, for creating pleasing experiences.
- For Web developers, for migrating existing applications to mobile devices, and for creating new applications based on the capabilities of mobile devices.
- For usability professionals, for developing intuitive interfaces and workflows.
- For technical communicators, for providing user assistance in formats that leverage the capabilities of mobile devices.

Sometimes we mistakenly think of mobile applications as "simple," "intuitive," or "not requiring documentation." But with the proliferation of mobile devices, even complex desktop applications are moving to mobile Web-based delivery. Technical communicators must adapt to different ways of providing mobile documentation. Some possibilities:

- **Overlays**. Particularly effective for applications that use possibly unfamiliar icons and gestures to trigger actions.
- **Tutorials**. Passive video tutorials or active simulations.
- **Embedded user assistance**. Text embedded in the Web interface that provides guidance to the user.
- **Conventional help**. Stand-alone help systems, possibly context-sensitive, delivered on mobile devices using adaptive or responsive design techniques.

It's almost unquestionable that the mobile Web has create more, not fewer, opportunities for Web designers and developers. The same is true for technical communicators. The modern Web is creating more, although perhaps different, opportunities for technical communicators.

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Multi-Screen Content Authoring:

A Method for Dealing with the Explosion in Device Types

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By JOE WELINSKE

NEWS FLASH! We have a population of computing device types that is rapidly growing, and it is not the familiar desktop. For most of the past two decades, personal computing consisted of a few variants of a box, a screen, a mouse, and a keyboard. We now have many hundreds of small-yet-powerful device types that people are using on the go to do work and consume information. The mobile app ecosystems have changed people's perceptions of what to expect from their software and the content that is presented to them.

A big question for technical communicators is how we can continue to contribute our skills in a rapidly changing world. This article is based on practical work with the presentation of information on a variety of devices. It describes a strategy for how to author and deliver information for multiple device types.

A strategy for supporting mobile apps starts with defining what that term really means. Generally, mobile apps are a new generation of software platforms designed for the iPhone, Android, and Windows Phone. But the mobile app category also includes Web-based apps that are based on open standards. The Apple ecosystem with the iPhone and iPad is fairly easy to support with just a half-dozen devices to deal with. On the other hand, we have Android where there are thousands of different device types. Windows Phone has fewer users, but it presents a radically different look and feel to the other two platforms. We also have emerging platforms for automotive and home entertainment systems that are going to be widely used in the coming years.

The question for information developers is how to deliver information to these platforms and their associated devices in a way that is both efficient and graceful. With respect to grace, you don't want your user to have to pinch and zoom on their device screen to be able to effectively read your information. Ideally, you want that information to adjust automatically, in a smart way, for each particular device. The efficiency part of the puzzle relates to the need for some form of automation to display your content gracefully on this emerging avalanche of devices. It is impossible to customize content manually for all the possible variants.

Relatively small screens are a big part of the challenge we face. But it's more complicated than that. Retina displays on certain devices let the user see more information without increasing screen size. User interface elements scale differently on different devices. The various platforms have proprietary coding issues that crop up. And mobile devices and software tend to follow a quickly iterating development timeline. All of this adds up to a lot of stressful issues that technical communicators haven't previously had to deal with.

One solution is a single-sourcing scheme that employs adaptive content and responsive design. Responsive design makes it possible to automatically adjust the way our information flows within the screen real estate of a particular device. Adaptive content displays information when and where it is relevant. In Figure 1 shown below, you have a single source page of information coded in HTML/CSS that is displayed differently on a desktop monitor, an iPad-style 10" tablet, a Nexus-style 7" tablet, and a smartphone.

Figure 1. Single-Source Information Scheme

The display of the information is designed to respond to the size and nature of the devices. The strategy is to intelligently deprecate the content as needed with diminishing screen real estate. It is no longer acceptable to just shrink the size of your screen layout for smaller devices. In Figure 1, the sidebar, the banner, and the images, are gradually eliminated.

The change in the content from device to device is not purely for looks. It also represents an understanding that using a site on a mobile, small-screen device means the user is likely interested in less, but more focused, information. Using a bus schedule app while sitting at home at your desk is a different experience from walking down the street trying to catch the bus. We can use our skills as information experts to adapt our content to what is appropriate in a particular context.

On the technology side, Web standards make it possible to automatically adjust the presentation of content based on the attributes of the various devices. HTML5, CSS, and Media Query can be used in concert to get the desired results. Using HTML and CSS, our content pages can become object-oriented data repositories. CSS makes it possible to turn any text or image into an object that can be hidden or revealed. Information that is appropriate for display on a 10" tablet may not be useful on a smartphone-sized device. The way you tag content will be based on making intelligent decisions about when and how to reveal your content. Applying different style sheets to a page of HTML can completely change not only the presentation of the content but what content is presented.

In Figure 2, the universe of devices to be supported has been reduced to four broad categories (or buckets). Starting from the top left and rotating clockwise, there is the smartphone, the 7" tablet, the 10" tablet, and the desktop/laptop. Each category represents different attributes. Screen size is the most obvious attribute, but it can also include resolution, platform, and others. A style guide is then constructed for each category. The style guides describe the information types that you want to display and the associated style codes to make that happen. For each category, you create a single CSS style sheet.

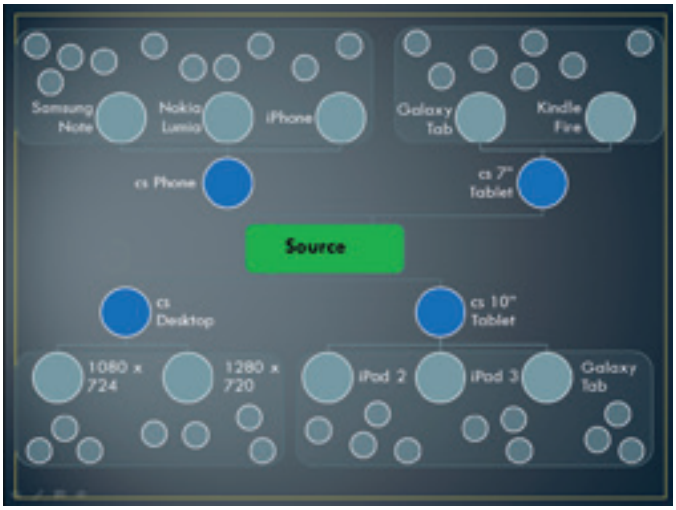

Figure 2. Using Device Categories to Scale for the Future

Media queries determine which CSS style sheet (or style sheets) will be used, depending on the characteristics of the digital device. For example, you can write a media query that applies your smartphone.css style sheet if the maximum width of the device is 480 pixels and below. At 481 pixels, your tablet.css style sheet takes over.

If you have thoughtfully developed your categories, you will find that it can scale well for future devices. As new devices appear with similar attributes, like screen dimensions, those devices will automatically fall into one of these categories. The existing style sheets and media queries continue to work automatically with the new device types. For example, when the iPad mini appeared on the market, it fit right into the 7" tablet category. Of course, there will be some outliers. The iPhone 3G doesn't comfortably fit in the smartphone category anymore because of its limited screen resolution.

As new devices appear, it may be necessary to create new categories. For example, the Samsung Note 2 is much bigger than most phones but smaller than tablets. In the future, we may need to add categories for automotive and home entertainment systems.

The use of conditional text is more valuable than ever. Conditional text has been around for many years for making adjustments to documentation for different contexts. Now it has a huge place at the table in terms of being able to provide single source content for different device types—recognizing that you may want to write information differently for different devices. For example, you might have a full paragraph of text to explain something in a desktop browser, but for the small screen you may want to use a single sentence. In your single-source page, you would have both versions of the text. Each would be tagged with the appropriate style code so they appear in the right version of the content.

Anytime we enter into a relatively involved scheme like what I've just described, it helps to have tools to smooth the way and provide a consistent and reliable output. Prototyping tools are going to be just as important as authoring tools, and you may not find one tool that can do a great job at both. Much of the key work in developing the responsive design and adaptive content comes up front with the development of your style guide and style sheets. You need to experiment with a variety of styles to decide what looks good and works effectively for which categories of output.

Within each category you are going to have adjustments to text size, spacing, and page layout, and you are going to make decisions on what information types should appear or be hidden from view. For this kind of work, you may want to rely on a Web design tool which has been optimized for working with CSS. It should support the use of Media Query and allow you to easily view your output as it is intended to appear for a particular category of devices. Our traditional Help authoring tools do not necessarily excel in this kind of service (although that's likely to change as those tools add support for this type of work). Once the prototyping phase is over, it is pretty simple to import your media queries and style sheets into other authoring tools and/or content management systems that support context-sensitive links, navigation, and search.

Speaking of navigation, you should seriously consider completely eliminating a hierarchical table of contents from any small-screen, mobile content. Usability tests repeatedly point out the limitations of this kind of approach. When people are confronted by a TOC on the small screen, they don't like it, they don't want to use it, and they usually fail to find what they are looking for. Many of our favorite Help authoring tools have features for transforming TOCs meant for desktop viewing into something that can run on a small-screen device. Unfortunately, just making it possible doesn't mean it provides an acceptable, useful solution. Avoid them. They simply don't work. Most successful apps take the time to redefine navigation for the small screen, often using a reduced and reorganized topic list.

Another content element to start thinking about is the use of different verbs for different device types. It can be helpful to build a language interaction table, as shown in Figure 3, where you define what verbs should be used for different device types like the mouse, touch, hand gestures, voice, etc. It is time to make some important decisions. Are you going to customize your content for different device types? Or will you try and use a generic approach? There are pros and cons to both sides. Many content authoring tools have the capability to use replaceable variables for verb choices. The language can then be changed automatically for different device types. The most important thing is to begin having this discussion with your team members and peers.

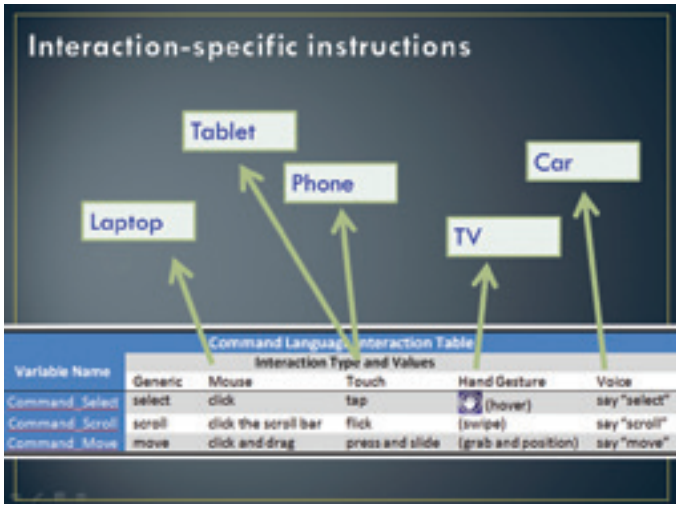

Figure 3. Example of a Language Interaction Table

Finally, if you are creating information in support of a native app for the iPhone or Android or Windows Phone, you definitely want to display it within the app itself. You don't want your information to be displayed in the mobile browser. This takes people out of their engagement with the app and makes it difficult for them to easily get back to the app they were in. If you are using HTML/CSS for your content you should display it in what is called a "Web view" in the native app. This is easily accomplished by the app developer and lets you maintain control of the development of your content.

Hopefully, this article has given you some ideas for how to gracefully and efficiently craft your content for the ever-growing population of devices. A carefully planned approach to responsive design and adaptive content scales well while ensuring a quality user experience.

JOE WELINSKE *is a consultant and contractor specializing in software user assistance and content strategy. He recently wrote the book* Developing User Assistance for Mobile Apps. *Joe produces the WritersUA (*WritersUA.com*) and ConveyUX conferences. His website is* Welinske.com.

Bleeding Edge Analytics for Technical Communication

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By MASSIMO PAOLINI

ANALYTICS IS NOW TRENDY. As a data guy, I didn't know it wasn't in fashion until all the hype around Big Data emerged into mainstream business parlance in 2012. In actuality, the term was first used in a 2008 academic paper entitled "Big-Data Computing: Creating revolutionary breakthroughs in commerce, science, and society."

Analytics is pushing new frontiers as business must sort through terabytes of information. Given the availability of big data, our short attention spans, and a business's driving need to synthesize insights quickly, where is the bleeding edge of analytics? And, how does it apply to technical communication?

Forward-thinking companies are now capitalizing on user-centric content (e.g., product data sheets, how-to guides) to help drive awareness, engagement, and sales.

Moving from Closed to Open Ecosystems

In the past, technical content primarily lived on an intranet, a network or closed ecosystem with limited or controlled access. Information was primarily contained in Word documents, pdfs, pictures, etc., all not easily searchable by algorithms. In this scenario, there was no need to analyze data. In a closed system, users hunted around for what they needed. Not a perfect system, but it worked.

Now with the shift of publishing technical content to HTML on public-facing servers, information hidden to search algorithms is a now a bigger opportunity (or liability depending upon how it's positioned). You've most likely heard the phrase "content is king." Consumers have a growing appetite for content to answer their burning questions. Businesses are now hyper aware of their visibility in search (e.g., SEO rankings). If an organization's content isn't well poised for search, that translates into online invisibility. Now it's a business viability issue.

Key Takeaway: This is good news for those who create and publish technical content. Forward-thinking companies are now capitalizing on user-centric content (e.g., product data sheets, how-to guides) to help drive awareness, engagement, and sales. With searchable content you can now measure how end-users interact with your content. That's the power of analytics.

Getting to the Source

Since content—even technical content—is the new business currency, most organizations should be tracking its performance. In an ideal world, you'd be given access to your organization's analytics so you can view real-time data and mine for gold nuggets you can use to improve the performance of the content you create and edit.

There are a variety of Web analytics tools. Sitecatalyst is probably the best known, seconded only by Google Analytics (GA). On the horizon is Universal Analytics (just out of beta), which will replace GA soon. Yet some organizations invest in more robust analytics solutions to capture all sorts of data (including personally identifiable information via reverse-lookup technology).

Just as content is emerging from closed ecosystems, so will access to data. As you begin your analytics data-gathering journey, here are the metrics that should be on top of your list:

- **Bounce Rate**—how quickly a visitor arrives and leaves a page. Be aware that analytics programs can define bounce differently. It can be set as "viewed one page and left" or "stayed less than 10 seconds." The right setting depends upon your industry, target audience, and their sales behaviors.
- **Length of Time on a Page**—this metric is pretty self explanatory. There is a correlation between time on a page and how content is consumed.
- **Number of Pages Viewed**—for this number, more is better, especially for complex products or lengthy sales cycles. The more content a visitor consumes is an indication of how engaged they are. Ultimately more engagement can drive sales and profitability.
- **Best and Worst Performing Pages**—to determine what content is connecting with your audience contrasted with those pages which may be missing the mark.
- **Segmentation**—all the above information can be viewed at the 30,000' level. However, if you're a global company and/or have different target audiences, you'll want to segment for greater insight depending upon:
  - Demographics
  - Geography/Language
  - Behavior (new vs. returning visitor, frequency/recency, engagement)
  - Technology (browser, OS, network)
  - Mobile (devices)
- **Behavior**—to see how visitors flow through your content. On the Web, any page can be a landing page. Meaning, a visitor may arrive on product manual page and navigate up to a product overview or data sheet. You'll find that a visitor's path isn't necessarily linear. Seeing how they trek through various types of content can illuminate how they use the information you write (or not).
- **Site Search**—is a website best practice. Typically located on every page, it enables visitors to search for specific keywords or phrases within the site. Analytics can be set up to track this piece of invaluable information. Compare what visitors are searching for with terminology used in navigation and content. You'd be surprised at the disconnect between what businesses think their visitors want and reality.

Key Takeaway: Analytics can be a deep source of information. Before drilling down into the data and getting lost in the minutiae, be clear as to the questions you want answered. For example, do you use personas when creating content? If yes, then use analytics to validate your personas.

If you don't use personas, what demographic or user-behavior questions do you need answered in order to develop them? Lastly, if your content resides in a location where users have to log in, you most likely have access to even greater insight on visitor demographics, behavior, and content performance.

The Bleeding Edge of Search

As mentioned earlier, consumers' appetite for content to answer specific questions is growing. Google's search engine algorithm underwent a major overhaul last

September by releasing "Hummingbird." It represents the first major step of incorporating artificial intelligence into online search. Rather than focusing on a specific search term—called a keyword—the algorithm now focuses on search intent where synonyms and geography can dramatically affect search results. For example, searching for "Thai food" on my smartphone while traveling at lunchtime will give me different results compared to doing the same search query via my office laptop.

Key Takeaway: How we search is changing. Instead of using a smartphone's touch keypad, consumers frequently use Siri or similar voice-activated programs to find what they need. Most search queries are posed in the form of a question á la *Jeopardy*. Google's Hummingbird—named for its precision and speed—rewards content that answers a question. So, does your content answer questions? Is it easily searchable for phrases consumers use to typically find content like yours?

Analyzing an HTML5 World

HTML5 is emerging as the new standard for Web content. It's more flexible than Flash, which isn't supported on every browser or device. It's more search friendly, as content isn't hidden in elements like pdfs or images. By creating integrated and interactive content, users can navigate to the pages most relevant for their query. This improves overall user experience, product adoption ratios and satisfaction ratings.

Key Takeaway: Consumers are demanding relevant content delivered quickly. HTML5 can help deliver beautiful and interactive content that's device agnostic. Not convinced? Dig into your analytics to find out what devices and operating systems your audience is using. Chances are the percentage of visitors using mobile devices such as tablets and smartphones has increased significantly in the past two years. Don't be lulled into complacency if your mobile device numbers are in the 10–20% range. The tipping point is coming, and coming up fast.

The Next Generation of Analytics

The world of search is getting smarter, applying artificial intelligence to ferret out search intent rather than word strings. What's on the horizon for analytics? Expert predict these analytic trends:

- Analytic programs will evolve to the point where a large percentage of digital advertising will be automated. The industry is moving away from cookie-based Web-tracking to a more advanced form of proprietary data collection. Our appetite for big marketing data continue to grow. How much is too much? That remains to be seen. Expect to see more about predictive analytics to help combat fraud and improve the purchasing experience.
- Mobile and geo tracking is the new "black." The consumption of content across mobile devices is expected to continue its exponential growth. Expect to see further personalization of the Web experience and fine-tuning of the buying experience to the small screen. Some pundits expect mobile devices will generate more Web traffic than desktops by 2014–2015 (*www.websitemagazine.com/content/blogs/posts/archive/2013/12/20/experts-speak-2014-predictions.aspx*).
- Shift from product centric to customer-centric focus. This should be music to technical communicators' ears. More brands will embrace their end-user's perspective rather than their internal view of the business. This translates to how content is organized on a website to availability of how-to content.
- Content and social currency will marry (or at least date steadily). Social mentions are impacting search rankings. Analytic programs will get better at tracking content that's shared, raising a brand's online authority.
- A/B and usability testing is gaining awareness and stature. More companies will use scientific testing methods to measure and analyze human behavior. In turn, these insights can be translated into improving Web experience and revenue performance.

Key Takeaway: Technical communicators who have the agility to visualize and navigate the analytic measurement of their content with human behaviors will be well positioned for 2014 and beyond. Content is the new Web currency. Support content is now integral to customer retention and potentially upselling. Analytics can measure the effectiveness of a company's sales funnel, including the content that drives visitor engagement and purchase behavior.

Putting It Together

I've touched upon how online search is changing and that HTML5 is becoming the new gold standard for Web content. Now what?

The value of technical content is rising in business importance. "Content is king," after all. Product manuals and how-to guides are becoming integral and pivotal pieces of a searcher's buying decision. Organizations that map out their sales funnel to online content will win the very competitive game of online search. You may want to read up on topics like search engine optimization, keyword research, search intelligence, and analytics trends. There are lessons in these disciplines that cross over to technical and customer support.

Beautiful, relevant, and interactive content is fundamental to visitor engagement. Technical communicators are known to advocate for the customer. Now armed with analytics data, you're perfectly poised to leverage this new and emerging landscape.

How will you embrace this new big data world?

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Thinking About Delivering Your Documentation as an eBook?

By SCOTT PRENTICE | *Senior Member*

YOU'RE PROBABLY QUITE FAMILIAR with eBooks and have heard that they are taking over the publishing industry. What about the documentation you create? Is it time to deliver that as an eBook? If so, you'll need to know where to start and what's involved.

But first, what exactly is an eBook? In the most general sense, an eBook is just a book that you can read on a device or computer. An eBook may be available in different formats and reading it may require the installation of a proprietary application. Unless you have a specific requirement to use a certain type of eBook, it's probably best to go with the EPUB standard.

An EPUB can be read on virtually all devices and platforms, from desktops to laptops to tablets and other mobile devices. As the content provider, you create the EPUB file, and the end user reads it in an eBook "reader" application or device. Most dedicated eBook reader devices will accept an EPUB file, with the notable exception being the various forms of Amazon's Kindle. Luckily, it's not complicated to convert an EPUB file into a format that's acceptable to a Kindle (MOBI or KF8 formats). We'll discuss that more later.

The main rationale for choosing an eBook format is typically based on the intended accessibility to your documentation. If you are making the documentation freely available, EPUB is the way to go. If your documentation is only available to a restricted audience and requires tight control, a proprietary format and reader may be preferable. However, DRM (Digital Rights Management) may be built into an EPUB which can restrict it to specific reader devices, making this an option for restricted delivery as well.

Content in an eBook is intended to be re-flowable to fit the constraints of the rendering device or application. This is similar to the way simple content in a Web browser will adjust to fit the width of the application window. Most eBook readers work on a screen-based "paged" format, meaning that the number of "pages" in the book will vary depending on the size of the device or application window and the size of the font. Typically the font characteristics (style, size, color, etc.) are user-definable. Because of this, you can never expect that a specific passage will be on the same page in the same eBook in different readers.

It may seem that the paged reading model would have implications on the type of content that's best suited for an eBook. It does work especially well for "guides" or conceptual information which assume that you've read the content in a particular order. But because most eBook readers provide a table of contents as well as search functionality, you can also drop in to a specific concept in the middle of the book, making it useful for reference material as well.

I like to think of EPUBs as making your documentation "ultra portable." In fact, there's no other delivery format that makes your documentation available on more devices or in more situations. If your users might benefit from having easy access to your documentation at all times, it's worth considering the EPUB format.

The EPUB Format

The EPUB format has evolved over many years. The specification is maintained by IDPF (International Digital Publishing Forum). EPUB 2.0 became an official standard in September 2007, which superseded the older Open eBook standard (OEB) from 1999. EPUB 2.0.1 was approved in May 2010 and EPUB 3.0 was approved in October 2011. Since that time the EPUB 3 Fixed Layout format was added in May 2012, and the EPUB 3 Indexes format was added in January 2014. An EPUB 3 Dictionaries working group is in progress. For the latest information, visit the IDPF website at *www.idpf.org*.

The underlying technologies of the EPUB format are XML, XHTML5, and CSS. The EPUB format supports images, standard formatting, and linking. EPUB 3 brings in a host of features supported by HTML5 and CSS3 such as multimedia, scripting, MathML, SVG, and better font and page layout. However, keep in mind that there is often a disconnect between the features defined by a specification

and how those features are supported by "real world" applications. This is very much the case with the EPUB format and the features supported by eBook readers. It's important to be aware of what you may be able to do in the future, versus what's reasonable to expect today.

An EPUB is technically just a "zip" archive of the various content, navigation, and metadata files. In order to overcome the shortcomings of EPUB-creation tools, it's often necessary to extract the contents of the file to make minor adjustments.

Creating an EPUB

Most of the information you'll find on the Web about creating EPUBs focuses on books that are produced for retail purposes, typically written for one audience and one output type. In the tech comm industry, we often produce multiple versions of a document and deliver it in multiple formats. It's not likely that you're going to stop producing, HTML, PDF, and Help formats and focus solely on eBooks. You'll probably just add one more deliverable to your current list.

Authoring tools such as Adobe InDesign or Apple iBooks Author are used for authoring content specifically for export to EPUB. If you are authoring specifically for EPUB, these may be a good choice of tools, but it's more likely that you are authoring for multiple formats rather than focusing on just one.

If you're currently producing some form of online Help, the tool you're using to produce that output may also support the EPUB format. Even though EPUB 3 is the current specification, many of the tools still produce the EPUB 2 format. This is typically fine because EPUB 3 reader applications will also handle EPUB 2 files. Give it a try. Use the default "export to EPUB" option and see what you get. After exporting to EPUB, view it in a desktop reader as well as in a reader on your mobile phone or tablet. You'll see that some features look better than others (tables are typically the biggest problem for small screens).

Regarding the EPUB 2 versus EPUB 3 issue, at this time most readers don't support the EPUB 3 specification well. You're best off using EPUB 2 or very basic EPUB 3 files. If you really want to take advantage of some new EPUB 3 features, your eBook will be limited to fewer readers' applications. Be sure to test on specific readers and make the list of supported readers available to your end users.

The most common problems are caused by excessive formatting. Some tools try to emulate the formatting in your source document, which is typically not what you want on a small screen. There will often be an option for assigning alternate formatting to the source document's styles. Wherever possible keep the formatting simple. Remember that the end user has the ability to assign fonts and coloring based on their needs. Don't work against them by creating your own "fancy" formatting.

It's important that your source files follow good authoring practices of using named paragraph and characters styles. When you apply overstyling to a word to diverge from your named styles, that styling is typically passed on to the EPUB content and cannot be controlled through CSS.

After exporting to EPUB, open it up and look at the markup in the HTML files created by your tool. Wherever you see "style" attributes in the HTML files, you will not be able to control that formatting via CSS classes. These style attributes may also cause problems for different eBook readers. You'll find that an EPUB with no style attributes will look best on more eBook readers.

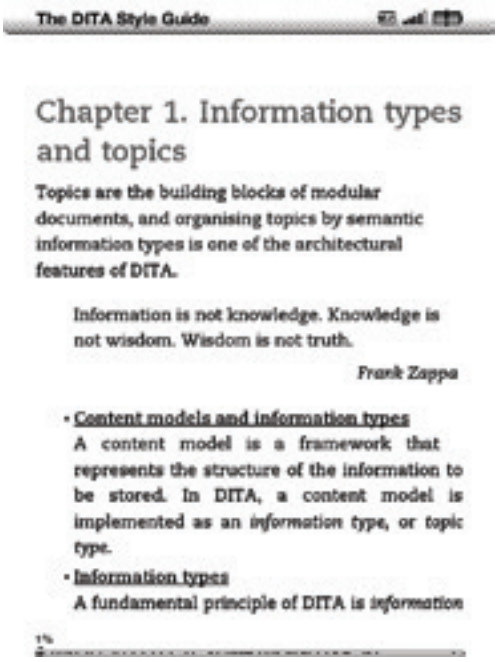
The DITA Style Guide
Chapter 1. Information types and topics
Topics are the building blocks of modular documents, and organising topics by semantic information types is one of the architectural features of DITA.
Information is not knowledge. Knowledge is not wisdom. Wisdom is not truth.
Frank Zappa
• Content models and information types
A content model is a framework that represents the structure of the information to be stored. In DITA, a content model is implemented as an information type, or topic type.
• Information types
A fundamental principle of DITA is information

Figure 1. Kindle 4 Basic

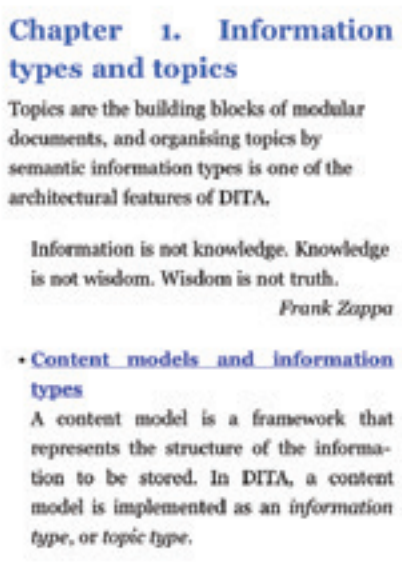
Chapter 1. Information types and topics
Topics are the building blocks of modular documents, and organising topics by semantic information types is one of the architectural features of DITA.
Information is not knowledge. Knowledge is not wisdom. Wisdom is not truth.
Frank Zappa
• Content models and information types
A content model is a framework that represents the structure of the information to be stored. In DITA, a content model is implemented as an information type, or topic type.

Figure 2. iPhone + Kindle app

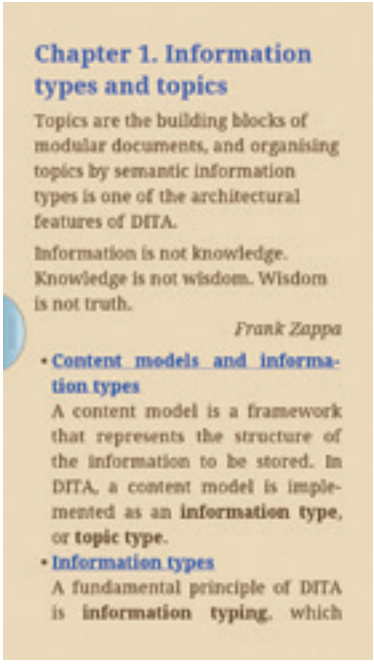
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Figure 3. Galaxy S3 + Kindle app

EPUB-Creation Tools

It is important to have a tool that lets you open up an EPUB and look inside. When something doesn't look right, this is often the only way to determine what's gone wrong. None of the EPUB-creation tools do a "perfect" job. They will get you most of the way there, but you'll typically need to do some tweaking to get things just right. The following tools will let you open an EPUB to review and edit the contents:

- Oxygen XML Editor
- BlueGriffon EPUB Edition
- Sigil (free!)

While many tech comm authoring tools claim to export "EPUB 3" files, they really aren't taking advantage of the new EPUB 3 features. Don't let that sway you when choosing a tool. The important thing is to use a tool that works well in your workflow. The following tools export to EPUB:

- Adobe FrameMaker 12 (EPUB 3)
- Adobe RoboHelp 11 (EPUB 3)
- ComponentOne Doc-To-Help (EPUB 3)
- EC Software Help & Manual (EPUB 2)
- MadCap Flare (EPUB 3)
- Webworks ePublisher (EPUB 2)

If you are using the DITA or DocBook XML models, you can use plugins and scripts to generate EPUB files. Additionally, extensions are available for FrameMaker and Author-it that allow EPUB export options.

- DITA Open Toolkit + DITA for Publishers plugin (EPUB 2)
- Docbook + EPUB 2 and 3, various options
- FrameMaker + ElmSoft EPubFm2 (FM 6-10) (EPUB 2)
- Author-it + ePUB Publishing Extension (EPUB 2)

After creating an EPUB, it is important to confirm that the file adheres to the specification. Do this with the epubcheck utility. Many authoring tools allow you to include this validation in the export process. If not, you can run it as a standalone tool. Most EPUB files will generate some errors or warnings; you'll want to correct most or all of the reported issues. This is where you'll need the tool that lets you open and edit the files within the EPUB.

While an EPUB that has reported errors may look fine on the eBook readers you're testing, it may not look right on other readers. Also, if you plan to make your EPUB available through an aggregator site, they will typically require the EPUB to pass validation, error-free.

The Kindlegen utility, available from Amazon, generates a MOBI or KF8 file from your EPUB. Typically, simpler formatting in your EPUB produces a better Kindle file. In general, a MOBI file is created from EPUB 2 and a KF8 file is created from EPUB 3. Many of the authoring tools that export to EPUB will let you specify the location of the Kindlegen utility in order to generate these Kindle-friendly eBook files.

One more tool that's useful to mention is Calibre. This is a bit like the "Swiss Army knife" of eBook tools. It provides numerous conversion options from many formats to many other formats. While this may be fine for testing and prototyping, I would not rely on this conversion to create a final deliverable. It also provides a reader application which can be handy and has an eBook management facility. Additionally, it provides a server application allowing access to the eBook library to anyone on your local network. This can be an excellent way to make eBooks available to others in your department or company.

EPUB Readers

In order to read an EPUB you need a reader application or dedicated device. It is important to test your EPUB on as many reader applications and devices as possible to ensure the best output. There are a handful of useful desktop reader applications (for desktop and laptop use), and many mobile applications. I maintain a list of reader applications (and other tools) at *http://epubtest.com/resources.php*.

Many of the dedicated reader devices produce desktop and mobile versions of their reader applications. For example, you can use a Kobo reader and you can use the Kobo desktop application or the Kobo mobile application. Same for Kindle and other devices. Unfortunately, you cannot assume that an EPUB will render consistently in these reader applications, even when created by the same company.

Figures 1–3 show some examples of the same page in the same eBook on different readers. You'll notice that while the content is the same in all readers, the formatting of that content does vary. In particular, notice that the content that is italicized in the Kindle 4 Basic and the iPhone Kindle app is formatted as bold in the Galaxy Kindle app. (*The figures use the "DITA Style Guide" by Tony Self, published by Scriptorium Press.*)

The downside of having an "ultra portable" format is that it may require a lot of testing. This is another reason for keeping the formatting as simple as possible.

eBooks Are Here to Stay

If you produce documentation of any kind, it's worth considering how your customers might benefit from having those documents available as eBooks. If you already produce HTML-based documentation, taking the next step to offer it as an EPUB is not a huge effort. Just remember to keep it simple. The best looking and most usable eBooks are those that apply the least amount of formatting.

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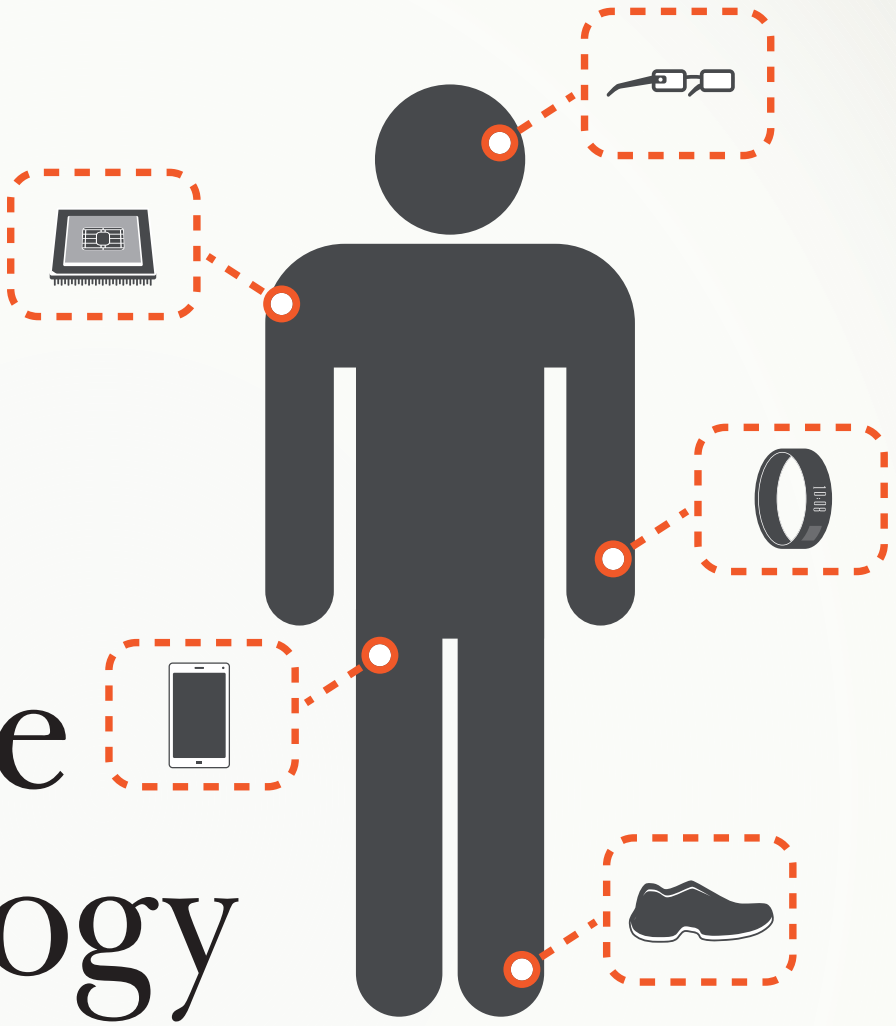

Wearable Technology and Google Glass: Why It Matters

By MARTA RAUCH | *Associate Fellow*

"GOING MOBILE" now means more than carrying a smartphone. An increasing number of mobile devices can be worn hands-free as you go about your daily life. This category of computing is called *wearable technology*, and it includes devices such as Google Glass. Given the benefits and wide adoption of smartphones in recent years, and the advantages of hands-free computing, it's no surprise that the demand for wearable technology is increasing.

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Rapid developments in wearable technology bring opportunities for technical communicators who create content and user assistance for devices such as Google Glass. This article describes wearable technology, including Google Glass, provides examples, and suggests strategies for effective user assistance.

What Is Wearable Technology?

Wearable technology, often called "wearables," includes various small computing devices that can be worn on the body. Examples include smart watches, wrist bands, sensors embedded in shoes and clothing, rings, contact lenses, and smart glasses like Google Glass. Like smartphones and tablets, wearables are available wherever and whenever users need them. A key benefit of wearable technology is that it keeps users' hands free as they go through their daily lives.

The Market Is Exploding

The market for wearable tech is growing rapidly. Market research from Deloitte predicts that wearables "should sell about 10 million units in 2014, generating $3 billion," with smart glasses capturing the most revenue. *Business Insider* foresees global wearable device shipments "reaching 300 million units five years from now … a $12 billion market by 2018."

In response to the rising demand for wearables, developer interest is increasing. Strategy Analytics notes that 27% of over 1,700 developers they surveyed plan to create apps for wearables in 2014.

Google Glass

Google Glass is a popular example of wearable technology. A heads-up display (HUD), it was introduced in 2013 to selected developers and early adopters through an Explorers beta program. A public release is expected in 2014.

Users wear Glass like a pair of glasses, and they interact with it through voice controls, a touchpad, and Google Glass applications. Glass uses WiFi to receive data, and it connects to a smartphone to access services such as GPS and SMS. Glass also includes built in sensors such as a gyroscope and an accelerometer.

Interest in Glass is building as apps are developed and Explorers demonstrate new use cases. After Glass is released to the public, market researchers predict that demand for the device will surge. For example, BI Intelligence expects "unit sales of Glass to climb sharply in the years after its official launch, to 21 million units in annual sales by year-end 2018. At $500 per unit, this equates to a $10.5 billion annual market opportunity." Technical communicators who stay ahead of this trend can benefit from new opportunities.

Glass User Experience

What is it like to wear Glass? Users interact with the device by speaking commands or using the touchpad on the arm of the Glass frame. Other interfaces, such as winking, are also being implemented.

To invoke an action or app, users say "ok glass," and then speak a command, such as "Take a picture" or "Record a video." After users take the initial action, additional options are available, for example, to view or share the picture or video.

Glass provides a set of standard commands, as shown in Figure 1.

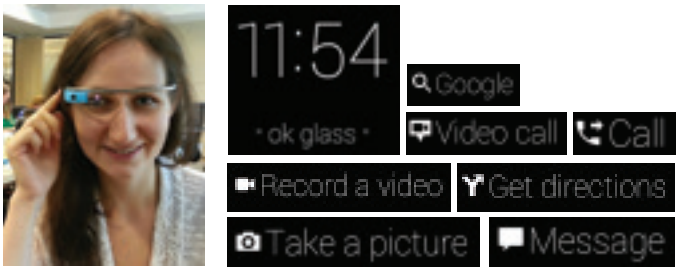

Figure 1. A set of standard Glass commands.

After users install Glass apps, additional commands are added. For example, after you install the Word Lens app, a Translate command is shown.

Glass User Interface

The Glass interface uses a "card" metaphor to convey small frames of information using minimal text and simplified graphics. A black background creates contrast in brightly lit environments, such as outdoors. Sample Glass settings are displayed in Figure 2.

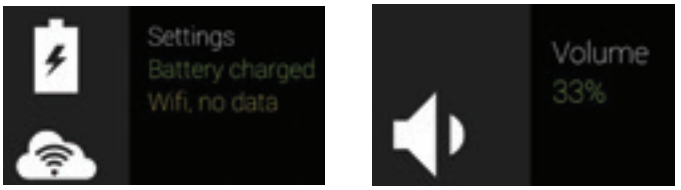

Figure 2. Sample Glass settings.

Glassware Apps

A growing number of Glass apps, called "Glassware," are being developed. Glassware is available for applications such as news, social networks, productivity, finance, augmented reality, fitness, and games, as shown in the following examples.

Example 1: Some of the Glassware installed on the author's Glass.

Example 2: Word Lens lets you translate content viewed with Glass into other languages.

Example 3: ColorSnap lets you use Glass to take a photo and create a paint color based on that photo. You can then order paint in that color for pickup at a nearby Sherwin-Williams store.

Example 4: GlassFit combines augmented reality and gamification to provide powerfully motivating training programs on Glass.

Other useful Glassware allows users to capture content with Evernote, create WordPress blogs, and post to social networks such as Twitter and Facebook. As additional apps are developed, Glass use cases will continue to expand.

Enterprise Use Cases

Enterprises are looking at ways to bring the benefits of wearable technology such as smart watches and heads-up displays like Google Glass to customers.

***Note**: The statements and opinions expressed here are the author's own and do not necessarily represent those of Oracle Corporation. The emerging technologies described in this article are not in the current product. Rather, they represent areas of innovation that applications development is exploring.*

Will You Be Wearing Your Enterprise Data?

The Oracle Applications User Experience (UX) team has developed user experience heuristics for wearables in the enterprise.

A post on the Oracle Applications UX group's *Usable Apps* blog asks, "Will You Be Wearing Your Enterprise Data?" (see Figure 3). Jeremy Ashley, vice president of Oracle Applications User Experience, states, "What we are doing is taking the application of computing power, and moving away from it being a single device. We are moving to multiple devices that sense the world around you. It's really a matter of what these devices can provide for you."

Simple, Mobile, Extensible

Design concepts shown in a *Usable Apps* blog exemplify "simplicity, mobility, and the extensibility of applications, all built with Oracle technology, with the latest device trends and integrations in the cloud."

Figure 3. The Oracle Usable Apps *blog.*

Wearable Tech Design Jams

The Oracle Applications User Experience group conducts design jams for wearable technology. At these events, user experience teams and invited thought leaders gather to generate new approaches for addressing enterprise customer needs.

During the event, teams engage and collaborate to design usable interfaces for wearable tech. Later, ideas are shown to stakeholders to gather feedback and iterate designs.

A key benefit of wearable technology is that it keeps users' hands free as they go through their daily lives.

Key Points for Technical Communicators

To provide successful user assistance for wearable technology such as Google Glass, ensure that content meets these qualifications.

- **Useful.** Help users accomplish a task that simplifies their lives and makes them feel amazing.
- **Timely.** Display information at the right time and place. Make users "*in the know and in the now.*"
- **Unobtrusive.** Avoid distracting users from their tasks, and interrupt only when necessary. "*Request* wearers' attention; don't demand it."
- **Relevant.** Provide overviews relevant to the current task. Allow users to drill down to contextual details as necessary.
- **Concise.** Trim content to what is necessary at that moment—what users need, when they need it.
- **Straightforward.** Tone should be casual and friendly, yet appropriate for business situations. Use a conversational style for voice commands.
- **Visual.** Incorporate simple and consistent icons and graphics, such as on info cards and drill downs. Provide videos where it makes sense.
- **Adaptable.** Use responsive design to ensure that the content displays well on a variety of screen sizes, shapes, and resolutions.
- **Accessible.** If your product is required to be accessible, ensure that content conforms to corporate accessibility guidelines.

Conclusion

Wearables and heads-up displays like Google Glass are enjoying phenomenal market growth. This brings exciting opportunities to technical communicators who can provide content that enhances the experience of hands-free mobile computing.

To take advantage of the booming market for wearable technology, savvy technical communicators will look for opportunities to develop usable content for devices such as Glass and other wearable technology.

MARTA RAUCH *is an STC Associate Fellow and information developer and ID lead at Oracle, where she works on mobile and cloud projects and participates in initiatives for wearables and Google Glass. A Google Glass Explorer since 2013, Marta has given many presentations on Google Glass. With 20 years of experience in technical communication, Marta is STC Silicon Valley Chapter vice president and program manager. She has received 15 STC awards for individual and team projects at the regional and international level. Her articles have appeared in publications such as* Intercom*, IEEE, HCII, and the Center for Information Development Management Best Practices. Marta holds a certificate in technical communication from University of California Extension, a teaching credential, and a BA from Stanford University.*

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Gamification and User Engagement in E-learning and Documentation

By TOM JOHNSON | *Senior Member*

FOR THE PAST YEAR I've been working at a gamification startup company called Badgeville in Silicon Valley. Badgeville is one of a handful of companies specializing in "gamification." When you gamify an application, you integrate game elements into non-game contexts to better engage your users.

If done right, gamifying an application can increase the engagement of your users by up to 48%, compared to only 28% for those who don't use gamification, according to surveys by the Aberdeen Group.

When your users are engaged, they participate more fully on your site—commenting, voting, sharing, rating, posting, downloading, or performing other actions. This is why Gartner predicts that 70% of companies will have at least one gamified application by 2014.

Examples of Gamification

When I tell people I work for a gamification company, their reaction is usually one of confusion. Yet the world around us has been gamified for a long time under other names.

Here are a couple of non-Internet examples you'll immediately recognize. The badges in scouting programs are a game element. Sewing a badge onto my daughters' Brownie and Daisy Girl Scout uniforms gives them a sense of achievement and status which in turn motivates them to participate in their troop even more. The badges in Girls Scouts and Boy Scouts derive from the badges and ranks in the military.

When you get a punchcard at a local store that requires you to buy 10 ice cream cones in order to get one free, that's a game element. When you get frequent flier points and free hotel nights for flying thousands of miles on an airline, that's a game element. These game elements are designed to increase your loyalty by providing a concrete measure of progress and encouraging you to perform specific tasks with a free item as the reward.

Gamifying activities isn't new, and now companies are gamifying their applications too. No doubt you've seen game elements on many forum sites. For example, with MadCap Software forums, as you respond to user threads, you rack up more posts and increase your status. As you increase your posts, you move from a Junior Propellerhead to a Propellus Minorus to Senior Propellus Maximus and more. Your status increases both your trustworthiness and reputation.

You can get value out of the basic principle of gamification, which is that making an activity game-like … makes it more fun.

Stackoverflow.com provides another example of gamification. Your reputation increases as you answer questions, receive votes for your answers, and participate in other ways. Figure 1 shows a profile of a user who has provided more than 2,000 answers.

Figure 1. A profile on stackoverflow.com.

In community settings like forums and wikis, where user interaction is needed to drive the site's content, giving users reputation points, badges, status, and other feedback can inspire them to participate and engage more.

Many online education sites, such as *codeacademy.com*, *khanacademy.org*, *codeschool.com*, and others implement game elements to better engage users. The more courses and lessons you complete, the more badges you earn.

Figure 2 shows a screenshot from Khan Academy. The goal or "mission" is to complete all the tasks so that you darken each square in the bar. This simple graphic helps you visualize your progress in mastering a skill.

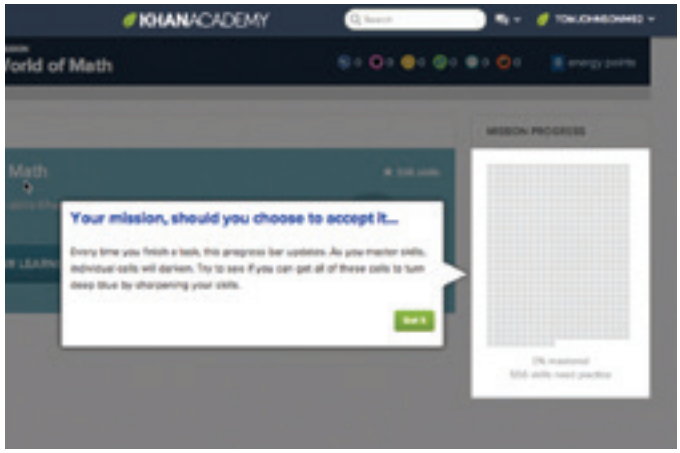

Figure 2. A screenshot from Khan Academy.

Of course, you don't go to the sites because of the badges, but the game elements do make learning more fun and rewarding.

Designing Gamification Solutions

Engaging users through game-like elements is not an easy task. Although many companies are gamifying applications, Gartner says that about 80% of the gamification programs will fail.

To design a successful gamification/engagement strategy for your application, you have to do some careful analysis and planning. You start by identifying the goals of your users. What do your users want to do and achieve?

Next, you define the goals of your business. What business objectives do you have for your users?

Then comes the magic question: Are there ways to leverage your user's goals and values to achieve your business's ends? Figuring out ways to overlap the users' goals with business goals is the art and science of successful gamification in the corporate world.

If you've ever been on a site where you "earned a badge" without even understanding what the badge is for or what it represents, the game element can be somewhat meaningless.

On the other hand, if you're trying to learn JavaScript and you suddenly earn the "JavaScript Level 1" badge, this badge is much more meaningful. It relates to an actual goal you have.

If the badges motivate your users to subscribe to your site to continue learning, then you've achieved a business end.

Intrinsic Versus Extrinsic Rewards

When designing rewards, one factor to consider is whether to focus on intrinsic rewards (like a badge representing learning), or extrinsic rewards (such as free airline travel).

Despite what you might expect, extrinsic motivators aren't the most powerful form of engagement. The problem is that extrinsic rewards place the value of the activity on something other than the activity itself.

For example, if you give your child $5 for reading a book, you might soon find that the child becomes interested in reading as a means of earning money. When you remove the extrinsic motivator, the child might lose the desire to read.

Nevertheless, extrinsic motivators have their place in engagement. At times, users may not know the value of the activity. An extrinsic motivator can help introduce users to an activity they might not otherwise perform. And once introduced, the user can transition from an extrinsic to intrinsic motivation.

For example, Ellis Pratt relates how Atlassian provides t-shirts to users who successfully implement JIRA, completing the Dragon Slayer installation game. The t-shirts are pretty popular. Though an extrinsic motivator, the t-shirts help people feel good about their success in installing JIRA. It helps transition them to actually using and administering JIRA.

However, when possible, engaging users intrinsically is preferable. Intrinsic motivators connect with a user's inner values, so intrinsic motivators can engage users for the long term.

For example, if you want to live a healthy lifestyle, an application that counts calories and gives you badges for hitting your calorie targets can motivate you intrinsically. In this scenario, the company doesn't need to send you a free t-shirt for performing the desired behavior because that behavior already connects with a goal you value.

If all users' goals already aligned with business goals, companies wouldn't have much of a need to gamify anything, since users would already be engaged. Gamification can help get users to take the next step, such as downloading, subscribing, or purchasing a product.

Status Motivators and Universal Reputation

One of the strongest intrinsic motivators is status. Badges that reinforce your status as an expert in a specific industry have a strong appeal and innate value to professionals in that industry.

For example, in tech comm, when MindTouch released their industry influencer badges, dozens of people quickly added these badges to their sites because, although just a simple graphic, it had real value and meaning. (The badge also served a business objective for MindTouch: increasing the visibility of their company.)

One problem with badges is that they often have meaning only within the site where you earned them. For example, the badges you earn from *codeacademy.com* appear only on your *codeacademy.com* profile. But what if you could take your badge with you?

Mozilla's Open Badges project does just that (see Figure 3). You can "earn badges from anywhere, then share them wherever you want—on social networking profiles, job sites and on your website."

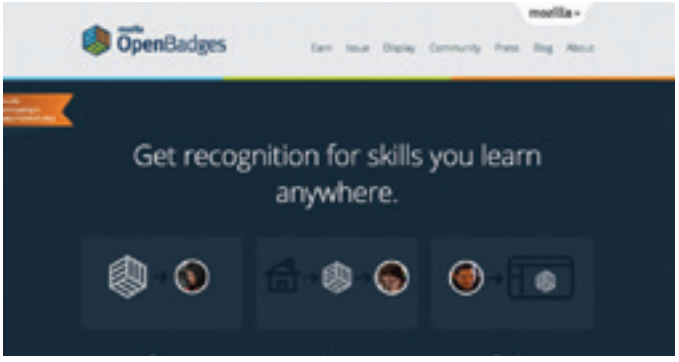

Figure 3. Mozilla's Open Badges.

For example, organizations might create an e-learning course on their site focusing on a specific skills (e.g., SharePoint Administration), and reward users with an Open Badge for completing it. The user can then display the badge on his or her own site and profile, which increases the value of the badge beyond the scope of the site where the user earned it. This kind of status recognition is known as a "universal reputation."

Gamifying Documentation

The many successful examples of gamification probably have you wondering whether gamifying documentation might help increase engagement among your users.

It certainly could, but gamification solutions are usually more connected to e-learning than standalone documentation. There are a couple of reasons for this.

First, you need a login system to track users. This usually means your documentation needs to be housed on a website where each logged-in user and their actions are identifiable.

Second, you'll probably need developer resources to integrate your engagement program with your website. Each time the user clicks a button, views a video, or takes some other action that you want to encourage, you need event listeners to trigger and communicate with a system that gives points, rewards, or other feedback to the user.

In your documentation, you might give points to users for reading content, voting on articles, and providing comments. Additionally, if you have a wiki, you might give users points and badges for editing and creating new articles.

However, this kind of gamification isn't nearly as successful as giving users points and badges for finishing courses, watching a series of videos focused on learning a specific goal, or for demonstrating expertise in a knowledge domain.

Badges in an e-learning context are meaningful to users because they represent progress in mastering a subject the user wants to learn. When you complete a course, you receive immediate positive feedback in having achieved more learning. The badges are a way of visualizing your progress and effort in learning a specific subject.

In contrast, documentation—written as modular, standalone topics—usually doesn't encourage users to master a specific subject in the same way. Users often consult documentation as they would an encyclopedia—to find answers to specific questions, or to learn how to do a specific task. But documentation isn't written from the perspective of guiding users to achieve mastery in a specific skill set. That's more in the realm of e-learning.

When considering the best ways to leverage gamification for your documentation, instead of looking for ways to gamify your documentation, look for ways to integrate documentation into e-learning and other gamified strategies.

If the e-learning course requires you to do specific tasks, look for ways to integrate documentation into those tasks. This means more context-sensitive help within an interface and more modular documentation that can be repurposed into e-learning contexts, where the documentation guides users toward specific learning missions.

In Figure 4 from a jQuery course on *codeschool.com*, you can see how the on-screen text within the gamification program links to documentation for more information.

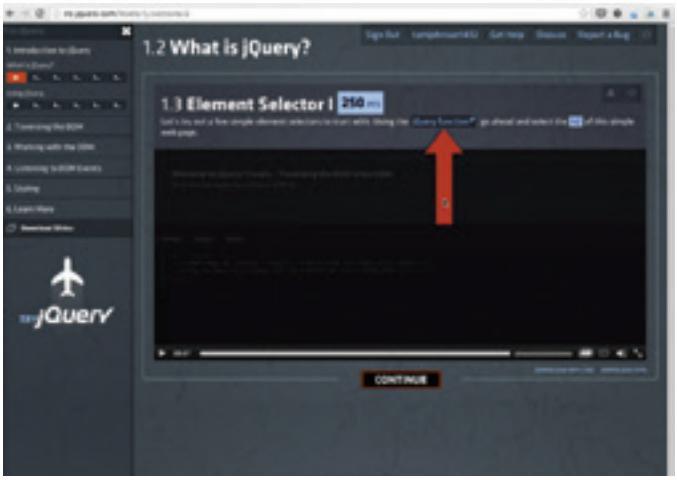

Figure 4. A screenshot from jQuery course on codeschool.com.

Another strategy might be to more seamlessly blend documentation and training. Rather than putting documentation in one silo and training in another, bring your training content into your documentation by including tutorials for users to complete. Gamify the tutorials with progress indicators, rewards upon completion, and other challenges. In this model, not all content is gamified—just the tutorials, exercises, and quizzes in your documentation.

Conclusion

Companies leverage game elements into their products because gamification has proven to better engage users. Connecting tasks that users value with business objectives can be challenging, but not impossible, especially when mixing intrinsic and extrinsic rewards. Gamifying e-learning contexts seems to have the most promise for technical communication.

Whether you use gamification in your company or not, you can get value out of the basic principle of gamification, which is that making an activity game-like, with points, badges, leaderboards, and other game components, makes it more fun. When an activity is fun, your engagement increases.

TOM JOHNSON *is a technical writer for Badgeville, a gamification startup company in Redwood City, CA. He has a technical writing blog at* idratherbewriting.com, *where he writes about issues in technical communication. You can follow him on Twitter* @tomjohnson *or email him at* tom@idratherbewriting.com. *He is also a member of the STC Silicon Valley Chapter.*

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STC Society for Technical Communication

NEWS

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Alan Alda Named STC Honorary Fellow

STC IS PROUD to announce that Alan Alda is the 2014 Honorary Fellow. Alan will be accepting the honor via video at the 2014 Technical Communication Summit during the Opening General Session on Sunday, 18 May.

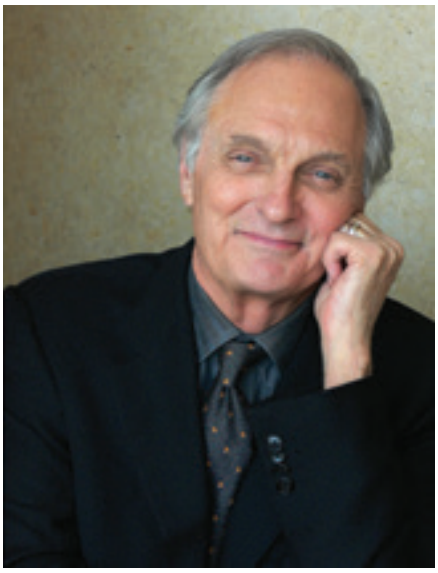
His citation reads:

For your long-standing and continuing effort to emphasize and promote the importance of good scientific communication and teach scientists to communicate clearly and simply, with both The Flame Challenge and the Stony Brook University Center for Communicating Science.

Alda is the idea behind, namesake of, and a visiting professor at Stony Brook University's Alan Alda Center for Communicating Science. The mission, from their website, states, "The Alan Alda Center for Communicating Science works to enhance understanding of science by helping train the next generation of scientists and health professionals to communicate more effectively with the public, public officials, the media, and others outside their own discipline." Together Alda and the Center host the annual Flame Challenge, which asks scientists from around the world to communicate complex science in ways that would interest and enlighten an 11-year-old.

"I can't think of anyone who deserves this honor more, and I am both humbled and thrilled to be presenting it to him (virtually) at the Summit in Phoenix," said STC President Nicky Bleiel. "His yearly Flame Challenge and his work at the Alan Alda Center for Communicating Science show how deeply he embraces the core principles of technical communication, since both projects strive to make the complex clear and to communicate that information effectively. Mr. Alda is not only a great actor, he *is* a technical communicator."

His long-time interest in science and in promoting a greater public understanding of science led to his hosting the award-winning PBS series *Scientific American Frontiers* for 11 years, on which he interviewed hundreds of scientists from around the world. In 2010, he hosted a science



series on PBS called *The Human Spark*. On Broadway, he appeared as the physicist Richard Feynman in the play *QED*. In 2002, he had the honor of giving the commencement talk at Caltech, where Feynman himself had delivered the commencement address 28 years earlier.

"I've been a fan of Alan Alda's *Scientific American Frontiers* shows on PBS for years," enthused Paul Mueller, chair of the Honorary Fellow Committee. "The mission of the Alan Alda Center for Communicating Science says it all. Mr. Alda clearly knows the importance of good communication."

Alda, a seven-time Emmy Award–winner, played Hawkeye Pierce on the classic television series, *M*A*S*H*, and appeared in continuing roles on *ER*, *The West Wing*, *30 Rock*, and *The Blacklist*. He has 33 Emmy nominations as actor, writer, and director, and is a Television Hall of Fame inductee. On film, he has starred in, as well as written and directed, many features, and was nominated for an Academy Award for his role in *the Aviator*. He has appeared often on the Broadway stage, where he received three Tony nominations.

View the Summit Program Online

IF YOU'RE ATTENDING the 2014 Summit from 18–21 May in Phoenix, AZ, you may be looking for the conference program organized by date and time, as has been published in Society Pages in past years. Based upon feedback from members, the *Intercom* editors decided this year that the program would be only published online on the Summit website (*http://summit.stc.org*).

To view the program, click on the Program/Program tab in the top menu. You'll be able to view the entire program organized by date and time quickly through our social site, *Lanyrd.com*, or download a PDF with the course title, presenter, and room number, also organized by date and time. You can click through to the *Lanyrd.com* site for full descriptions of the sessions; full descriptions will also be available in the official Summit program, which will be provided to each attendee at the Summit and in PDF form shortly before the conference.

If you haven't registered for the Summit yet, we invite you to review the program and discover what you're missing—then register today to ensure you don't miss a thing!

Night Life and Good Eats in Phoenix

BY JESSICA BLAKE | *Member* and
KIM ROSENLOF | *Senior Member*

WHEN THE MAY SUN sets and temperatures cool, downtown Phoenix heats up with a thriving nightlife and restaurants tempting any palate.

Night Life

Grab some drinks and popcorn at FilmBar (815 N 2nd St., *http://thefilmbarphx.com*), a movie theater specializing in independent films, located a half-mile north of the Hyatt Regency. Indie, foreign, art house, cult, and classic films are shown here in an intimate 70-seat setting. Join the Phoenix chapter Monday, 19 May, to reflect on typography, graphic design, and global visual culture with the movie *Helvetica*. (See *http://summit.stc.org/hotel-travel/optional-tourist-events/* for more information.)

If you're looking for current release movies, walk just two blocks north of the Hyatt to the Arizona Center (400 E. Van Buren Street, *www.arizonacenter.com*), where you can see a rom-com or action flick at the AMC 24 Theater and end the night with a nice cool stroll with mint chocolate chip ice cream from Cold Stone Creamery. The Arizona Center hosts nearly two dozen retail shops and restaurants, with eateries ranging from Starbucks and Subway to Kokoro Sushi & Noodle Bar and Café Roma.

Another downtown hub within walking distance of the Hyatt, CityScape Phoenix (1 E. Washington St., *www.cityscapephoenix.com*), offers laughs with DL Hughley at the Stand Up Live comedy club, live music every Friday night at Copper Blues Rock Pub & Kitchen, and bottomless mimosas for brunch at Blue Hound Kitchen & Cocktails. Get $2 draft beers from 3:00-7:00 PM at Gypsy Bar and play 40 mega-sized arcade games from Guitar Hero to NBA Hoops to Pac-Man.

2014 Technical Communication Summit Conference-at-a-Glance (18–21 May 2014, Phoenix, Arizona)

	Saturday, 17 May	Sunday, 18 May		Monday, 19 May		Tuesday, 20 May		Wednesday, 21 May
8:00 AM	8:00–5:00 Preconference Certificate Sessions and Workshops (optional pricing)	8:00–12:30 Leadership Program (preregister; optional pricing)	8:00–5:00 Preconference Certificate Sessions and Workshops (optional pricing)	9:00–5:00 Expo Open	8:30–10:30 Education Sessions	9:00–5:00 Expo Open	8:30–10:30 Education Sessions	8:30–12:30 Education Sessions
9:00 AM								
10:00 AM							10:30–1:00 Break. Visit the Expo Hall!	
11:00 AM					11:00–12:30 Communities Event. Visit the Exhibit Hall!			
Noon								12:30–2:00 CLOSING LUNCHEON (ticket required)
1:00 PM					1:00–4:15 Education Sessions		1:00–5:00 Education Sessions	
2:00 PM								
3:00 PM								
4:00 PM								
5:00 PM		5:30–6:45 OPENING KEYNOTE GENERAL SESSION		5:00–6:00 Annual Business Meeting				
6:00 PM								
7:00 PM		7:00–8:30 Welcome Reception in the Exhibit Hall				7:00–7:30 HONORS RECEPTION (free)		
8:00 PM						7:30–10:30 HONORS BANQUET (ticket required)		

Arizona Center

Crescent Ballroom (308 N 2nd Ave., *www.cresentphx.com*) located approximately four short city blocks west of the Hyatt, offers a mid-size music venue and kitchen and is open daily with full bar service. It's a great place to catch indie and upcoming artists for free and experience downtown nightlife throughout the week.

Hanny's (40 N. 1st St., *www.hannys.net*), began as a department store but now serves as a fixture for downtown Phoenix nightlife, offering petite midnight martinis for only $2.50. The deejay booth sits on the highest level looking over the restaurant.

Crescent Ballroom

Try a specialty Moscow Mule (with vodka and ginger beer) that comes in a copper mug and pair it with a margherita pizza. Stand on the old elevator shaft with only glass between you and a steep drop. Make sure to take a trip downstairs for an eerie surprise.

If you're looking for something a little more cultural, Cirque de la Symphonie will be in town at the Symphony Hall (75 N 2nd St., *www.phoenixconventioncenter.com/venues/symphony-hall*), bringing a high-flying Cirque troop with jugglers, contortionists, and strong men. The artists performing this adaptation of cirque performances in front of a full orchestra turn the concert into a three-dimensional piece of art.

For an intriguing and risqué Broadway play, visit the Herberger Theater (222. E Monroe St., *herbergertheater.org*) for "Venus in Fur" where a young actress auditions for a play based on an erotic novel. Her interaction with the director shows a game of cat and mouse that blurs the lines between seduction and power.

Good Eats

Arizona Restaurant Week starts Saturday, 17 May, and extends through the Summit to Monday, 26 May. Hundreds of restaurants through Arizona, including many of those downtown, will offer special prix-fixe menus that include a starter, entrée, dessert, and sometimes an adult beverage for one fixed price. Visit *www.arizonarestaurantweek.com* for a list of participating restaurants.

If you're near the aforementioned FilmBar, head across the street to Angel's Trumpet Ale House (810 N. 2nd St., *www.angelstrumpetalehouse.com*). Rated one of the top 10 new restaurants in 2012 by the *Arizona Republic*, Angel's boasts 31 taps, 2 nitro taps, and cask-conditioned ales. Its new American eclectic bar food ranges from seasonal homemade pop tarts and Spam sliders to Tuesday night TV dinners.

Hailed by prominent food critics as the best pizza in the world, don't miss Pizzeria Bianco (623 E Adams St., *www.pizzeriabianco.com*), located just west of the Phoenix Convention Center in Heritage Square. The restaurant itself is small, but their wood-fired ovens and homemade mozzarella cheese are worth the wait in line.

For American fare, try the District American Kitchen & Wine Bar (320 N. 3rd St., *www.districtrestaurant.com*) for bacon-wrapped dates with chive cream cheese and maple syrup, Georges Bank scallops, Hudson Valley duck breast, and huckleberry bread pudding sundae. Enjoy live music Tuesday through Thursday.

Heritage Square

Follow the 2014 Summit on Twitter

EVEN IF YOU aren't able to attend the 2014 Summit in Phoenix, you can follow it via Twitter—and even get a little taste of the conference to boot! Both *@stc_org* and *@STC_Summit* will issue all the official announcements and information on speakers, preconference courses, and more. For a more in-depth view of the conference, check out the hashtag *#stc14* for all tweets during the Summit. Attendees are invited to tweet from the conference using that hashtag, and anyone can view their comments by searching on the hashtag. The conference website (*http://summit.stc.org*) will have a live stream of tweets during the conference.

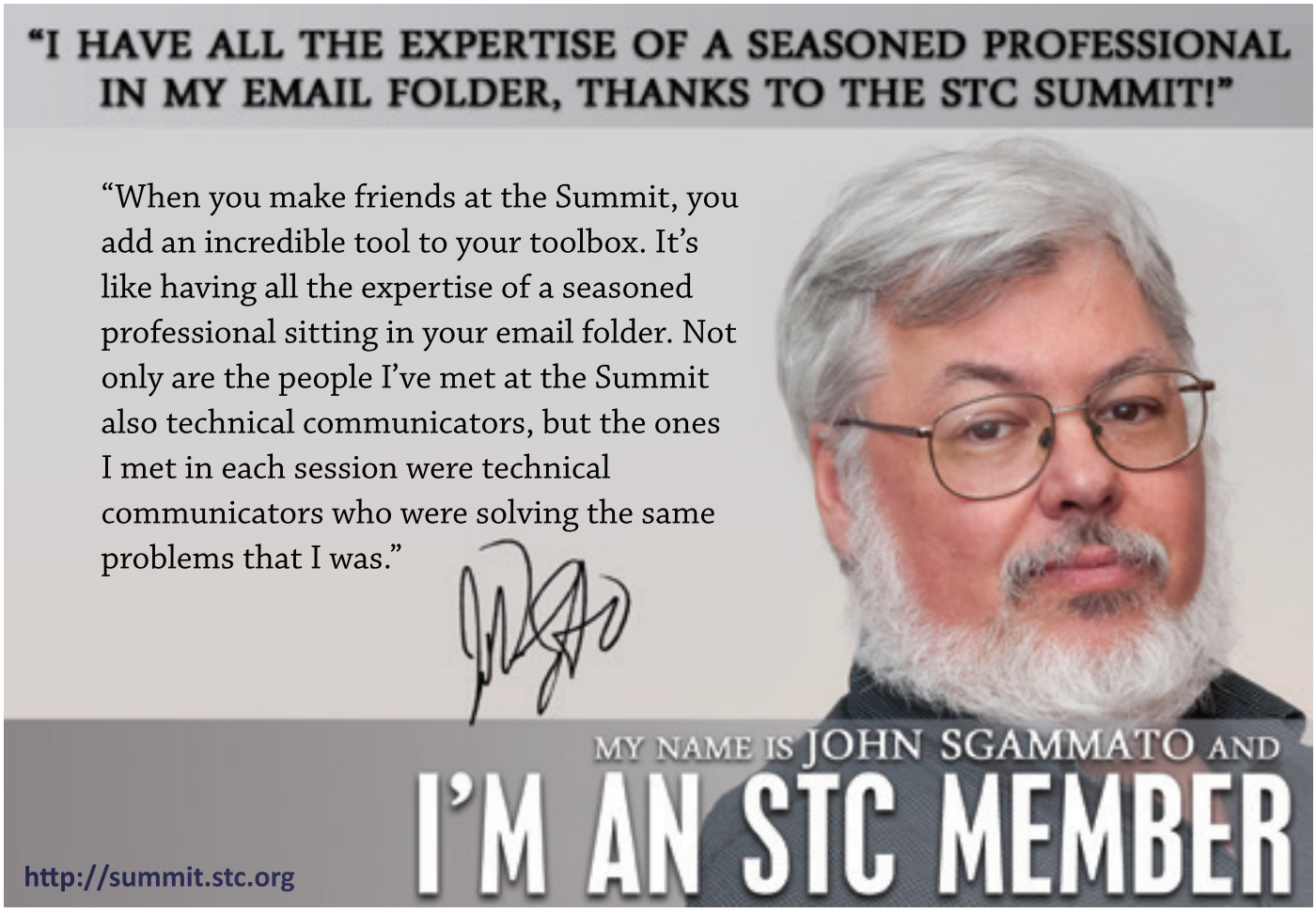
STC Reflects on 2013: 60th Year in Review

THE SOCIETY for Technical Communication is pleased to publish its 2013 Year in Review, a look back at major initiatives and updates to programming, as well as information on the state of the Society.

The report reviews the past year and highlights the actions taken in 2013 to strengthen the Society, both in terms of the value and satisfaction it provides members and its sustainability as a business. It addresses the change in strategic focus and how this will benefit our members, current programs, and new areas of effort. It is intended to give our members insight and information about the association they have so generously supported. Included in the report are an updated mission statement; details on membership, education, partnerships, communities, publications, and recognitions; and financial highlights.

Join us in celebrating 60 years as a profession. Read the Year in Review at *www.stc.org/images/stories/pdf/stc2013yearinreview.pdf*.

STC Society for Technical Communication


"I HAVE ALL THE EXPERTISE OF A SEASONED PROFESSIONAL IN MY EMAIL FOLDER, THANKS TO THE STC SUMMIT!"
"When you make friends at the Summit, you add an incredible tool to your toolbox. It's like having all the expertise of a seasoned professional sitting in your email folder. Not only are the people I've met at the Summit also technical communicators, but the ones I met in each session were technical communicators who were solving the same problems that I was."
MY NAME IS JOHN SGAMMATO AND
I'M AN STC MEMBER
http://summit.stc.org

Technological Ableism

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BY AMANDA K. BOOHER | *Guest Columnist*

IN THE PAST month, I noticed new reports of a couple wheelchair-related technologies making social media rounds. One was an article from the *Huffington Post* titled, "Thanks To Mind-Controlled Technology, A Paralyzed Teen May Make The First Kick At The 2014 World Cup" (4 January 2014). The other was a video posted on *wimp.com* for the for the TEK Robotic Mobilization Device, which initially made the news in 2012, but was recently re-discovered. Both technologies assist people with paralysis to perform actions not possible alone or in a wheelchair. They maneuver and support users in(to) an upright position, "freeing" the upper body for motion (in the latter) or physically moving any part of the body (the former).

These sorts of announcements—disability-related or not—are not unusual. If you are plugged in to the technological (the focus of this issue), you likely see these announcements on nearly a daily basis, from general news sources (*Huffington*

"Disabled people have not yet established their entitlement to exist unconditionally as disabled people."

—Fiona Kumari Campbell

This column features ethics scenarios and issues that may affect technical communicators in the many aspects of their jobs. If you have a possible solution to a scenario, your own case, or feedback in general, please contact Derek G. Ross at *dgr0003@auburn.edu.*

Editorial Note

In our last column, we considered the problem of greenwashing: using "green" language or design to imply that a company, product, or action is more environmentally responsible than it actually is. In this month's column we consider the problem of ableist language: defining disability against hegemonic discourse which implies that "abled" is more right or normal than "disabled."

Both of these columns focus on our ethical responsibility as technical communicators to be aware of the implications of the language we use. As Paul Dombrowski (2000) notes, we share ethical responsibility with our colleagues and employers, with subject matter experts and end users, but our writings are often the vehicle by which decisions are made.

What are your experiences with ableism? Does your organization recognize problems with this type of language? If you were to suggest rephrasing of documents written from an ableist viewpoint, would your organization listen?

Let us know your answers to the questions we've posed, your thoughts on the ethics of technological ableism in general, or send us your own ethics cases or column ideas. Please send your responses to derek.ross@auburn.edu. *Responses will be printed in an upcoming issue of* Intercom *as space permits.*

—Derek G. Ross

Post, *New York Times*), specialized sources (*Wired*, gizmodo), YouTube searching, and social media sharing. You may, in fact, be writing some yourself. They are usually rhetorically enthusiastic, foretelling futures of greater ease, physical enhancement, and abilities beyond our imagining; they are optimistic about potentials and effectiveness; they tout the technology (and its results) as exciting, amazing, miraculous.

Such announcements and reports also, often, include claims like these (emphases mine):

> *About the Tek Robotic Mobilization Device:*
>
> The makers of Tek RMD says it's the most compact device of its kind, which allows Yusuf to navigate crowded grocery aisles, libraries, *and who knows, Coachella, maybe? All without knocking into the people and things around him. Users still need ramps in place of stairs, but the device eliminates the need for special bathroom stalls and other facilities that allow space for bulky wheelchairs.* (Philipkoski, 2012)
>
> *About the mind-controlled exoskeleton:*
>
> "With enough political will and investment, *we could make wheelchairs obsolete.*" ("Thanks," 2014)
>
> Devices plugged directly into the brain seem capable of *restoring some self-reliance* to stroke victims, car crash survivors, injured soldiers and others *hampered by incapacitated or missing limbs.* (Powell, 2013)
>
> With the world watching, Nicolelis hopes not only that his bionic teenager will be able to feel the ball but also that *disabled people everywhere will feel a sense of hope.* (Powell, 2013)

While optimism and enthusiasm are quite lovely, extending that optimism and enthusiasm uncritically to particular groups of people is not. What the italicized phrases demonstrate is a rhetoric of *ableism*. As part of STC's ethical principle of fairness, it is imperative that we work against ableist language and practices. And to do that, we must understand them.

Ableism

Fiona Kumari Campbell argues that *ableism* "characterises impairment or disability ... as *inherently* negative," with ableism focused always on amelioration, cure, or elimination of disability. Ableism is:

> A network of beliefs, processes and practices that produces a particular kind of self and body (the corporeal standard) that is projected as the perfect, species-typical and therefore essential and fully human. Disability then is cast as a diminished state of being human. (Campbell, 2009, p. 5)

Ableism, then, is not one particular action, but a "network" that privileges the able body over any body that deviates from that norm. This links to what are commonly considered the two models of disability, the medical and the social. The medical aims to fix what is wrong with a body, usually through medical intervention. It locates disability in the body that does not conform to expectations of wellness and mobility. The social model instead locates disability in that surrounding the body—in a social that is constructed in ways that disable people from performing what are considered "normal" interactions with the world (e.g., stairs cause problems for people in wheelchairs, people pushing strollers, people with sore knees, etc.; ramps would alleviate these problems). The concept of ableism pushes beyond that to flip the script of critique from the disabled to the networks and systems that reinforce the problematic notion of an "abled" body. This is akin to considering "gender studies" instead of "women's studies"—focusing on the systems that create gender norms instead of on women and their bodies, choices, and behaviors. (This is not to say that women's studies does not focus on gender, but to point out the rhetorical difference in the two terms.)

A particularly tricky aspect of ableism (or any other kind of discrimination) is when it is located in good intensions. It is perhaps easy to see a progression related to our sense of "normal," or "better,"

for bodies. When we have the flu, we want to be well/normal; when we break a bone, we want to be well/normal; the jump to "when we have a disability, we want to be well/normal/abled," is not far. But it is substantial. This sense of progression is easily extended when technological developments are involved. We expect technology to improve our lives in particular ways; if we assume, consciously or not, that disabled bodies need improvement, technological innovation presents an obvious—and very positive!—answer. But again, technological enthusiasm must be balanced with awareness of our ableist assumptions.

James L. Cherney (2011) argues for three rhetorical problems in ableism:

1. ableist culture sustains and perpetuates itself via rhetoric; the ways of interpreting disability and assumptions about bodies that produce ableism are learned.
2. viewing ableism as rhetoric ... reveal[s] how it thrives [and] suggests ways of curtailing its growth and promoting its demise.
3. any means of challenging ableism must eventually encounter its rhetorical power.... Ableism is that most insidious form of rhetoric that has become reified and so widely accepted as common sense that it denies its own rhetoricity.

We can see evidence of these rhetorical problems in the claims I noted and italicized above regarding mobility technology:

Technology is, of course, never in a vacuum, but always situated historically, culturally, and socially, subject to issues including gender, class, race/ethnicity, and dis/ability.

- Two quotes suggest the obliteration of other technologies important to disabled people: wheelchairs and facilities. The ableist assumptions here are: 1) that wheelchairs are undesirable; 2) that technology can "fix" people (so we don't need to "fix" our surroundings); 3) that these technologies will be accessible to and desired by everyone in a wheelchair (despite this technology only working for people with paralysis), regardless of economics, gender, race, or other factors; and 4) that this technology will not cause its own problems (like losing power).
- Two emphasize independence, suggesting the technologies will make disabled people less of a problem (by not knocking into things or needing assistance): The premise that independence is preferable (or even possible) is inherently ableist.
- Three tell us that being disabled is clearly less-than being abled: using the terms "hampered" and "restored" (implying a condition of lack), stating that the technology will give disabled people "a sense of hope" (implying that they have none now), and oddly suggesting the possibility of attending Coachella (because that is a privilege for only abled people, I suppose?).

These examples demonstrate differing levels of ableism, not all as egregious as representing disabled people as, on the whole, lacking hope. We can also fix them relatively easily with careful word choice and deletion of condescending ideologies.

As ethically focused, conscientious communicators, we are already aware of discriminatory language in terms of gender, ethnicity/race, sexuality, and disability. But ableism is not simply an issue of derogatory word choice. We must continue to be self-aware and challenge our unarticulated assumptions, particularly in light of technological developments. Technology is, of course, never in a vacuum, but always situated historically, culturally, and socially, subject to issues including gender, class, race/ethnicity, and dis/ability. It is our job to help communicate that to our audiences in any context.

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Interview with Michael A. Rosinski, President & CEO of Astoria Software

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BY SCOTT ABEL | *Senior Member*

The Content Wrangler: Michael, tell us about yourself and what you do for a living.

Michael A. Rosinski: My background centers on sales, marketing, and finance. Over the course of three decades in the dynamic world of high technology and application software, I've reinvented myself, as many technical communicators have done, moving from mainframes to midrange to the Internet to mobile to social media.

I have a deep background with Wall Street, including two initial public offerings in the ERP space and two mergers-and-acquisitions transactions to my credit. I was a founding executive with American Software and trademarked them as the "Supply Chain Management Company." Being the first to market with supply-chain software ranks up there with what Facebook, LinkedIn, and Twitter have accomplished in social media.

On the international landscape, I spent three years in Paris as president of Augeo Software in professional-services automation, helping to develop a solution that automates project-management functions.

In 2006, I was hired as president and CEO of Astoria by Goldman Sachs, the premier Wall Street investment firm and an investor in Astoria, to turn the company around. I have made the company profitable, introduced the first SaaS (software as a service) platforms and mobile platforms to component content management, and sold the company to TransPerfect, the largest private translation company in the world.

TCW: What is a CCMS, exactly? And what makes it different from other types of content management

In the digital age, change happens quickly. This column features interviews with the movers and shakers—the folks behind new ideas, standards, methods, products, and amazing technologies that are changing the way we live and interact in our modern world. Got questions, suggestions or feedback? Email them to *scottabel@mac.com*.

systems? Tell us about your flagship product, Astoria CCMS.

MAR: All content management systems (CMSs) are not created equal. Some are document-oriented, managing files—whole documents—and the attributes attached to those files. These are systems like Microsoft SharePoint and EMC Documentum. Other CMSs are Web-oriented, giving IT control over the display of HTML pages. Oracle Stellent and Adobe CQ5 are two notable products of this type.

Separate from these two types of CMS is the component CMS, or CCMS. A CCMS manages XML-tagged content components. Each component has its own history, permissions, and life cycle. Since each XML component is independent, a CCMS promotes content reuse, content collaboration, and translation efficiency more than document-centric or Web-centric CMSs do.

Even within the CCMS world, all systems are not created equal. For example, some CCMSs, including Astoria CCMS, take a NoSQL approach to storage and retrieval, which results in more consistent performance as the number of XML components increases. To achieve the same consistency, a SQL-based CCMS would require substantial (and expensive) hardware upgrades.

To show the kind of problems a CCMS can address, here's a scenario from one of our customers. A team of over 60 writers were building and maintaining 4,000 technical manuals—18 million words—in Adobe FrameMaker and using a document-centric CMS to manage that content. They were spending $7 million annually to translate these manuals into 20 languages. When they converted their content to XML, they found themselves in charge of millions of XML components. Millions of pieces of content. How were they going to manage them all?

They came to us for help. The problem was architectural. Their CMS managed 4,000 documents *as documents*. It wasn't designed to manage millions of XML components. That's what CCMSs do. And CCMSs can enable access to that content by even hundreds of writers around the world. We set up a system for them, imported all their XML content, and turned their writers loose to reuse that content, prepare it for translation, and produce output for delivery to their customers.

Over the next couple years, this company saved over $6 million in translation costs alone. They also cut the effort required to create and maintain content in half. That's cutting over 60 writers' work hours by 50 percent. This company also discovered that broad changes, such as rebranding, could be effected in minutes instead of weeks. Finally, the writers on this team say that their ability to find reusable content and the system's ability to track content versions make their jobs easier.

TCW: What type of content is best to manage in a CCMS like Astoria?

MAR: To answer this question, I need to convey the environment for which systems like ours were designed. We serve companies that have what we call the 3 *V*'s: high volume, high variability, and high velocity of data for technical product documentation. These kinds of companies are under tremendous pressure to release new products in competitive markets and they face myriad obstacles, such as regulatory scrutiny, product differentiation for niche markets, acquired companies whose content they need to integrate, and the list goes on.

Technical documentation is the intellectual property underpinning these companies' products. So for any company that produces a complex product requiring technical documentation (for example, verticals such as high technology—hardware and software—medical devices, discrete manufacturing, telecommunications), a CCMS is a must-have, not a nice-to-have.

What writers store in a CCMS are reusable components of XML-tagged content. A content component might be a topic for an online help system, a section for a book-oriented user guide, or some other core idea, concept, task, or reference component that exists as an indivisible unit of information. Each customer defines that level of indivisibility and builds a library in the CCMS from those components. Each customer cross-connects those content components in various ways, mixing and matching them as needed to build various documentation sets.

For example, in a regulated industry, such as medical-device manufacturing, all products must be accompanied by the correct notes, cautions, and warnings. Writers in regulated industries assemble a corpus of approved material that is then cross-linked into "Instructions For Use" documentation. Cross-linking ensures that there is no variation in the notes, cautions, and warnings, ensuring compliance with legal strictures and regulations. Companies producing documentation from a corpus of reusable knowledge components are less prone to mistakes in product labeling, and they thereby reduce their exposure to litigation arising from mislabeled products.

This is just one example. I could cite dozens of others in both regulated and nonregulated markets.

TCW: What are typical uses for a component content management system?

MAR: One use case for a component content management system is unifying the teams across technical communication, marketing, customer service, and other departments. In the absence of a CCMS, these departments often duplicate the effort of creating and maintaining information. As the amount of content grows, this duplication of effort results in exponential growth of redundancy, inconsistency, and error.

A CCMS, when implemented thoughtfully to support integrated processes across departments,

enables companies to present consistent information to the customer while supporting cross-department efficiencies.

Breaking down silos and speaking with one voice: these two reasons are precisely what drove one of our customers to adopt a CCMS. The marketing department spearheaded the effort to unify all customer-facing content so that customers would have a common and consistent experience whether reading brochures, instructional material, or repair guides. The marketing team, led by a vice president who understood the value of correct and consistent content, convinced each of the company's line-of-business leaders to subscribe to what they called their single-voice project. A global documentation team reporting to the marketing VP provided guidance and training.

That company chose a CCMS as the global repository for all business units, making common content available to each writing group. Working together, these groups dissolved content silos and they systematically identified and promoted content components that had potential for reuse. The CCMS easily accommodated more than 400 GB of data and graphics, giving users a reliable platform on which to achieve the marketing department's vision of a single-voice experience for its customers.

TCW: Why would a technical communication team want to consider using a CCMS like Astoria instead of a CMS like SharePoint?

MAR: A CCMS lends itself to managing content—specifically XML-based content and especially DITA content—better than a system like SharePoint for several reasons. Only a CCMS does these things:

- Flags content for translation
- Maintains cross-reference links
- Supports single sourcing
- Supports advanced release management

Beyond the ability to push content out, executives are looking for useful ways to bring customer feedback in.

First, let's look at the translation advantage. When content changes, the CCMS keeps track of which affected components have already been translated into the target languages. The CCMS then helps localization coordinators build translation packages that contain only those files that need to be retranslated.

For some companies, this capability alone provides enough ROI to justify the CCMS investment.

For example, let's say your company has 250 documents for a certain product, and those documents have all been translated into 10 languages. Along comes a product change requiring revisions to several safety warnings across those documents.

In this scenario, if you were using SharePoint—which "knows" nothing about XML and, consequently, has no idea which content components change between revisions of a file—you would have to send all 250 documents to your language service provider. Even if only a tiny percentage of the content within those documents is changing, you would incur charges for evaluating *the entire document set* against translation memory for all languages on top of paying for the new translation. Furthermore, SharePoint doesn't support segmentation rules or cross-references. Without getting too technical, this means that the material sent to the service provider may be far more or far less than what's needed, complicating the localization coordinator's life.

In plain English, if you have a lot of translated content and you don't have a CCMS, updates are an expensive pain. A document management system like SharePoint leaves companies no choice but to pay translators far more than is merited by "tiny" content updates—and to pay their own employees to find and prepare all those documents up front and then process all the updated translations afterward.

In our example, we're talking about 2,500 translated documents.

Now if you were using a CCMS in this scenario, the system would know which components within those 250 source-language documents had been altered and needed retranslating. A CCMS eliminates the need for comparison with translation memory. It enables people to single out the components affected by any given change and to flag *only those components* for the translators to update.

After those components are updated in all languages and reimported into the CCMS, all linkages that existed in the source-language material are preserved in the target-language material. Document management systems like SharePoint can't do this.

Let's examine that last point more closely. If you've ever moved content around in SharePoint, you know that links break. They break because SharePoint is a hierarchical file-management system; links are based on file names and folder structures. In a CCMS, content components are not stored in a hierarchical system. Instead, each content component has a unique ID that never changes. Other components link to that ID. So, regardless of how many times a component moves around in the repository, the links never break.

Back to the main question—what can CCMSs do that other CMSs can't—another huge differentiator is single sourcing. Have you ever tried to repurpose content in SharePoint, such as converting HTML content for display on mobile devices? It's somewhere between cumbersome and impossible because SharePoint has no publication pipeline capability, and it provides no interface for producing differentiated output from a common set of XML files.

With a CCMS, it's another story. CCMSs are designed to single source. The Astoria CCMS, for example, has a publication interface that allows you to specify filtering criteria and output types in an single operation. You can produce HTML, PDF, Word, and Eclipse Help outputs in a single operation from a single set of source file*s*. Imagine doing this for one set of products and then for another set of products seconds later. With SharePoint, you couldn't dream of doing this. This is what CCMSs are built for.

Finally, SharePoint does not support advanced release management. Users must invent file-naming conventions and other procedures built around SharePoint's file-compare capability. SharePoint implementation teams have to invent their own version-management and release-management mechanisms.

Not so with a CCMS. Release management is a core capability. CCMS users—at least, I can say with confidence, Astoria users—can define any number of releases, branch and merge content across releases, add or remove content from specific releases, and publish any release, even historical content that has been updated or overwritten.

This capability is particularly helpful when you need to freeze content versions for regulatory purposes. Freezing or archiving content requires you to preserve snapshots of your document set with each change. To do this without a CCMS, you have to create what amounts to a content silo, which organizations want to avoid. A CCMS can reconstruct any document set from any point in its life cycle. No need to copy content to an archive location. No content silos.

TCW: You mention DITA. What more might you want to say?

MAR: Astoria is agnostic on the question of DITA. Our CCMS supports any DTD.

TCW: In your experience talking with leaders in the C-suite, what are some of the big challenges facing enterprises today?

MAR: Executives want to offer an excellent customer experience while reducing costs. One way to do that is to use SaaS products. A SaaS-based CCMS offers a one-stop shop for software, hardware, upgrades, infrastructure, server, peripherals, consulting services—all conveniently bundled at a predictable level of expenditure. Many companies don't have the necessary experience to go out and acquire all these components on their own and to choose the correct amount of infrastructure to support the anticipated enterprise-wide scale of the project.

Another area challenging C-level executives is the mobile revolution. In the future, few enterprise applications will remain on the desktop. Most will be distributed on mobile platforms. So when you research CCMSs, it makes sense to look for systems that enable people to produce, review, edit, approve, and publish content using mobile devices—smartphones, tablets, etc.

Beyond the ability to push content out, executives are looking for useful ways to bring customer feedback in. They want to engage with customers. While I can't speak for other CCMSs, the Astoria CCMS delivers this level of engagement by enabling your company's customers to provide feedback that helps writing teams identify the most important topics. Astoria gathers search criteria, search results, and prompted feedback, and then provides this correlated information to the writers. The writers can then improve the topics their customers care about based on what those customers need.

Why does this kind of capability matter to leaders in the C-suite? According to a report released by Oracle Corporation in December 2012, 81 percent of the consumers they surveyed said they would pay more for a superior customer experience. Writing teams that have customer feedback data correlated with specific content topics are in the best position to improve customer experience.

Writing teams that have customer feedback data correlated with specific content topics are in the best position to improve customer experience.

TCW: Astoria is owned by TransPerfect, a major player in the translation-services industry. Recently, TransPerfect bought Vasont, a competitor in the CCMS market. What does that mean for customers and prospects?

MAR: The Astoria system and the Vasont system serve different types of customer. The Vasont CCMS offers a department-level solution for small and medium-sized businesses. The Astoria CCMS serves the distinct needs of large companies—like Cisco, Siemens, General Electric, and Micron—at the enterprise level. It handles massive amounts of global data and provides access to unlimited users with fast response times.

For more, see the 27 January 2014 TechWhirl interview with Phil Shawe, co-CEO of TransPerfect: *http://techwhirl.com/transperfect-vasont-systems-merger-path-one-stop-solution-global-clients/*

TCW: What mistakes do you see companies making as they explore content management options?

MAR: One mistake is scheduling demos with vendors before discussing their true pain points with those vendors. This approach puts the company's people in the

difficult position of "translating" the features they see in a demo to their imagined resolution of pain points in their current processes. Unfortunately, we have seen prospects ask questions that reveal a fundamental misunderstanding of what a CCMS can do.

A wise manager approaches vendors with pain points. The vendor needs to understand company goals, directives from senior executives, business processes, and tools. The vendor needs to cover the company's issues, successes, and failures. The kind of "discovery call" I'm talking about has no demonstration component, just honest discussion between equal partners. If there's a good fit between a company's pain points and the vendor's solution, then it makes sense to schedule a demonstration.

A company's preparation for this kind of discovery call with a CCMS vendor is an introspective exercise in honesty. Before reaching out to vendors, companies need to assess their people, their processes, their operating environment, their hopes and dreams—everything that goes into the craft of building, managing, and delivering product information—to determine what, if anything, they want to change.

Another mistake I see is that companies fail to do proof-of-concept trials to test the system for several weeks and discover how it works for them. I'm talking about doing a trial. Not just scheduling a trial. We see plenty of companies scheduling trials. They assemble their evaluation criteria. They identify their evaluation teams. They mark the start dates and end dates on their calendars. That's scheduling the trial.

Few companies get around to the doing. They don't allocate time for people to run through the criteria. They don't have regular calls with the CCMS vendor to discuss and resolve issues discovered in the trial. They don't test the vendor's responsiveness and appreciation of their needs. That's unfortunate, of course, because doing the trial helps both the customer and the vendor. Doing the trial reveals many things about the fit between the CCMS vendor and the company. Doing the trial reveals the character of the product and service beyond superficial examination and light testing of features and functions.

I see great opportunity ahead for those who step up to the content challenges facing companies today. Companies need skilled technical communicators now more than ever.

If companies want to prove out the benefits of a CCMS, they need to commit to doing a proof of concept.

One more mistake: some people focus on price when they should focus on return on investment. A CFO will approve the purchase of a CCMS if presented with a rigorous ROI analysis. I can't speak for all vendors, but at Astoria Software, we help people produce such an ROI. We help our prospects focus on verifiable benefits and the monetary value of those benefits to the organization. Our ROI-discovery process strips out fantasy projections and nebulous benefits, boring in on the elements that drive cost savings, productivity improvements, and the ability to embrace future initiatives. These are the issues that executives want to hear about. Our ROI helps documentation teams make the right case to those leaders. This process presents the financial backing to make the business case to the CFO, who will see the value of spending x to get $3x$ back within three years. Nevertheless, it's surprising to me how infrequently that information is packaged and delivered to budget-wielding senior management.

TCW: The discipline of technical communication is experiencing a reset. Gone are the days that writers were paid top dollar to "document the system." Outsourcing, off-shoring, and other business models for creating content are shaking things up. Today, the top-paying jobs require far more than writing. What skills do technical communicators need to develop to remain relevant?

MAR: The traditional view of the technical communicator as product documentor, at least as well-paid product documentor, may be disappearing. But I see great opportunity ahead for those who step up to the content challenges facing companies today. Companies need skilled technical communicators now more than ever.

Specifically, companies need technical communicators who know their own discipline *and* understand business goals. Who can explain how things work *and* think strategically about content. Who can think postsale *and* presale. Who can create information that works for end users *and* for translators. Who can create content worth reusing *and* can structure that content for reuse.

I encourage all technical communicators who want to improve their value to their employers and clients to participate in events that can help them grow in these directions. The Intelligent Content Conference and CIDM (Center for Information-Development Management) events come to mind.

Technical communicators who expand their skill sets in the ways I'm talking about will lead their companies straight to the business advantages that content management systems are designed to deliver. Those technical communicators will find themselves in demand for years to come.

Mark Your Calendar

Organization events across the globe

F.Y.I. lists information about nonprofit ventures only. Please send information to *intercom@stc.org.*

1 30 April–3 May
The **American Society for Indexing (ASI)** will be holding its annual conference in Charleston, SC. For more information, contact:
ASI
conference@asindexing.org
www.asindexing.org/

2 2–5 May
The **Council of Science Editors (CSE)** will hold its annual meeting at the San Antonio Marriott Rivercenter in San Antonio, TX. For more information, contact:
CSE
+1 (703) 437-4377
CSE@CouncilScience Editors.org
www.councilscience editors.org

3 18–21 May
The **Society for Technical Communication** hosts the Technical Communication Summit at the Hyatt Regency Phoenix and Phoenix Convention Center in Phoenix, AZ. For more information, contact:
STC
+1 (703) 522-4114
http://summit.stc.org

4 26–29 May
Join the **Association of Proposal Management Professionals (APMP)** for their Bid & Proposal Con at the Sheraton Hotel & Towers in Chicago, IL. For details:
APMP
www.apmp.org

5 9–12 July
The **User Experience Professionals Association (UXPA)** 2014 International Conference, with a theme of Motivation, will be held at the Park Plaza Westminster Bridge in London, England. For more information contact:
UXPA
conf2014@uxpa.org
www.uxpa2014.org

6 13–15 October
The **IEEE Professional Communication Society (PCS)** hosts IPCC2014, Meeting Grounds: Lifelong Learning, from Classroom to Workplace, at Carnegie Mellon University in Pittsburgh, PA. For more information, contact:
IEEE PCS
http://pcs.ieee.org/ipcc2014/

7 26–29 October
The **Public Relations Society of America (PRSA)** hosts their international conference, "Leading the Way: A Fearless Future for PR," at the Washington Marriott Wardman Park Hotel in Washington, DC. For more information, contact:
PRSA
+1 (800) 350-0111
www.prsa.org/Conferences/InternationalConference/

* STC-related event

Volunteering is Good for Your Career

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BY JENNIFER MAYNARD | *Senior Member*

NEVER UNDERESTIMATE THE VALUE of volunteering. As technical communicators, we are blessed with writing and design talent. Organizations worldwide are always in need of volunteers with strong communication skills.

Good for the cause

As a technical communicator, I enjoy meeting new people and learning about a new product. I relish the challenge of presenting great information that is easy to understand and use. We can apply these same skills in our work with volunteer organizations. Writing and design skills are always in demand. Quality information and great design impresses supporters and presents a professional image. It spreads the message and goals of each volunteer organization.

Our skill sets are as diverse as the opportunities to serve, such as writing and designing:

- Logos, websites, and social media sites
- Promotional literature and marketing materials
- Weekly bulletins, monthly newsletters, and brochures
- Press releases, campaign materials, and speeches
- Grants, policies, and procedures
- Vision and mission statements
- Training guides, user guides, and job aids
- Content management systems
- Videos

We can use our copyediting and proofreading expertise in all areas shown above. Define your skill set to determine how to best use your gifts and talents.

Many volunteer opportunities support children. We can serve as responsible, creative role models. We can mentor these students while showcasing our work in the technical communication field. They can learn the value and importance of quality information through our writing and design samples. We can help them prepare and write résumés and even assist with their college applications.

Good for your career

Like most technical writers, I have always loved to write. I wrote articles for the school yearbook, college newspaper, and Winter Carnival pictorial. In college, I wrote and reviewed résumés for almost everyone I knew. While building my design and writing portfolio, I created websites, brochures, and logo designs. I shared these samples during job interviews to showcase my work and experience.

Every opportunity builds your technical communication experience and expertise. It's an excellent use of your time and skills while helping worthy causes. Volunteering helps you build your personal and professional network while helping others. You can also volunteer to write, edit, and design while working remotely, thus extending your reach even further. You may also learn a new skill or software program to keep your skills sharp.

If you find yourself between jobs or in the market for a career change, volunteering allows you to explore your passion. You can seek work in a new field or for a new task before committing to a major job change. Volunteer opportunities may lead to new careers even if you weren't planning on a job change. And, as you write and design for a volunteer organization, your samples are your own and not owned by the company you work for.

Good for you

Today, I get paid to write and design. My daily work is technical in nature and we follow writing and style guidelines. Writing as a volunteer gives me the opportunity use skills that I do not use every day on the job. I am glad that I can continue to use my communication skills in a volunteer capacity. As a member of our local Rotary club, I designed the club brochure, update the website, and write press releases. I also get to meet new people and learn more about my community and our world at each weekly meeting. My work promotes the great initiatives that Rotary International supports. I get to do what I do best every day at work and in my free time as a volunteer. It's easy to find areas to best use your skills when you commit to the work of your organization.

Seek organizations where you can use your unique skills and expertise as an opportunity to serve. See *www.volunteermatch.org* or *www.pgdp.net* to search for a variety of volunteer activities. For more information about Rotary International, see *www.rotary.org.*

*Editor's note: For more information on how other technical communicators have volunteered their skills and talents, visit the STC LinkedIn group (*www.linkedin.com/groups?gid=2926*) for a lengthy and extremely interesting discussion about volunteering.*

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